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ABSTRACT

This report of oversight hearings concerns the administration's budget and consolidation proposals for vocational and adult education programs. Testimony includes statements and prepared statements, letters, and supplemental materials from over 15 individuals representing the United States Department of Education; National Association of Vocational Education Special Needs Personnel; State Department of Education, Missouri; National Center for Research in Vocational Education; University of Missouri-Columbia; American Vocational Association; a United States senator; Inconet, Corp., New York City; Virginia Polytechnic Institute and State University; University of Nebraska; New York Institute of Technology; Milk Marketing Inc., Ohio; State of Ohio Department of Education; State of New Jersey Department of Education; and Nebraska Commission on the Status of Women. (YLB)

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OVERSIGHT ON THE ADMINISTRATION'S BUDGET PROPOSALS FOR VOCATIONAL EDUCATION

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR

HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

SECOND SESSION

HEARINGS HELD IN WASHINGTON, D.C., ON
MAY 6, 18, AND 19, 1982

Printed for the use of the Committee on Education and Labor

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OVERSIGHT ON THE ADMINISTRATION'S BUDGET PROPOSALS FOR VOCATIONAL EDUCATION

THURSDAY, MAY 6, 1982

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 2175, Rayburn House Office Building, Hon. Carl D. Perkins (chairman of the subcommittee) presiding.

Members present: Representatives Perkins, Kildee, and Goodling.

Staff present: John F. Jennings, majority counsel; Nancy Kober, majority legislative specialist; and Richard DiEugenio, minority legislative associate.

Mr. GOODLING [acting chairman]. The subcommittee will please come to order. While we are waiting for the chairman to get back, we will begin because I know you are pressed for time, Senator Hatch. We are very happy to have you testify before us this morning.

The chairman has now arrived—I will stop and let him take over. Good morning, Mr. Chairman.

Chairman PERKINS. Thank you very much, Mr. Goodling. I have been out with 301 patrolmen from my largest county. I was showing them around the Capitol—and Senator Ford met me at 8:30 a.m. this morning.

The Subcommittee on Elementary, Secondary, and Vocational Education is conducting a hearing today on the administration's consolidation proposal for vocational and adult education programs.

The administration's proposal, submitted to Congress on April 1, would consolidate programs under the Vocational Education Act and the Adult Education Act into a block grant.

The various set-asides, categories, and subparts in these two existing laws would be eliminated. The administration recommends funding the block grant at $500 million for fiscal year 1983, which represents a 32-percent cut when compared with the $744 million currently appropriated for the vocational education and adult education programs.

We are pleased to welcome the Honorable Terrel H. Bell, Secretary of Education, before this subcommittee again.

We will begin this session, however, by hearing from our distinguished colleague, Senator Orrin Hatch, chairman of the Labor and Human Resources Committee. Senator Hatch has introduced his own vocational education legislation, S. 2325, a bill which is very similar to the administration's package. Please proceed in your own way.

STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM THE STATE OF UTAH

Senator HATCH. Thank you so much, Mr. Chairman. I always appreciate being here with you whether it is a conference or whatever. Congressman Goodling, I am happy to be with you also.

I sincerely appreciate the opportunity to appear before you today to discuss briefly the bill I introduced in the Senate on March 31, 1982, S. 2325, to consolidate and update the existing Vocational Education and Adult Education Acts. I am very pleased to join with Secretary of Education, Terrel Bell in advocating legislation which will help State and local vocational and adult educational program planners and administrators in their efforts to design programs which can be more responsive to constantly changing economic needs.

Before commenting on my bill, Mr. Chairman, I want to pause a moment and pay tribute to the late John Ashbrook and express the loss I feel both personally and professionally because John Ashbrook is not with us today. I know that I speak for his many friends and my colleagues in the Senate in saying that his wisdom and counsel are going to be sorely missed. He was a champion of bipartisan vocational and adult education legislation and will be long remembered for his dedication to programs for improving the employability of all people in all places in our great Nation.

Mr. Chairman, Senate bill 2525 is the product of countless hours of give-and-take discussion between my staff and numerous interested parties both in Washington and around the country. Moreover, we have worked very closely with Secretary Bell and his staff in the final drafting of the measure so that my bill would reflect as many of the administration's objectives as possible.

Although there are a few minor differences between the provisions of my bill and the draft legislation which the Secretary sent up to the Congress on April 1, 1982, for all practical purposes the substance that is, what each will do, is virtually identical.

I recognize, Mr. Chairman, that as with most legislative proposals which earnestly try to reflect the widely divergent views held by various groups in the educational community, there are always a few areas which are not adequately treated, or fail to receive attention. Where this does occur in my bill, I want to emphasize that it is not a result of any lack of interest on my part. Rather, it is either because we could not achieve some degree of consensus, or the information and data were too soft or inconclusive to support a particular program purpose. Through bipartisan hearings and supplementary information, I hope that any voids in my bill can be filled.

For example, two important authorizations which have been added since the passage of the Vocational Education Act of 1963

are the authority to use Federal funds to assist in removing sex stereotyping from vocational education offerings and assisting displaced homemakers, men and women, to prepare for gainful employment.

My bill does not address either of these very important areas of national, State, and local concern chiefly because there is so little information available with which to divine a new or different sense of direction. Mr. Chairman, I seriously doubt that delaying reauthorization action until 1984 when the existing laws expire will improve that situation very much. It is my hope that your subcommittee, Mr. Chairman, will join with us in searching for solutions to the problems of equity in training as well as in employment.

Over the years, a very small investment of Federal dollars has caused States and local program planners and administrators to invest as much as 10 of their dollars—often more to 1 Federal dollar in some program areas. It was the hope of the Congress, when the sex equity amendment was added in 1976, that a similar result would ensue in that program, and Federal dollars would lever or drive State and local money, not only into nontraditional vocational education programs for women but also into expanding the administration thereof to provide access for women to all vocational education activities.

The tentative, unofficial data available to my staff suggest that this is simply not happening. The last year for which there is incomplete but substantial data, that is, 1980, indicates that out of the 54 States and territorial jurisdictions receiving funds under the sex equity mandate, which requires that not less than $50,000 be spent annually on such programs or the money returned, only 6 States are reported to have spent any of their own money to support this program activity. Moreover, tentative data on women enrolled in training for nontraditional jobs suggest very little change in the aggregate in nontraditional enrollment patterns since about 1972.

Some who share my concern over lagging enrollments suggest, that because sex equity coordinators for the most part at the State level have no authority over the flow of program funds, the only remedy is for the Congress to force specific set-asides for these coordinators to manage. A number of other remedies have been suggested, which would place the Federal bureaucracy even further into the management of State and local vocational education programs.

I am aware, as I know you are, Mr. Chairman, from your oversight hearings, that the Federal investment has had some very positive results in ways other than direct classroom enrollment. It is my understanding that tremendous ground has been gained in removing content from books and other curriculum materials which is offensive to women and which actually has mitigated against women electing to enroll in courses where they have every right to be. However, Mr. Chairman, if the bottom line is getting more women into nontraditional employment—if that is where women want to be and have every right to go—it does not look like they are getting there as fast as they should.

I urge your subcommittee to join with the Senate Committee on Labor and Human Resources and recognized women's groups in a

searching look at legislative alternatives to what now exists. If the current authority can be improved—and it would seem that it could—we need more compelling information than we now have to help us improve existing laws and thus give women greater access to nontraditional vocational education offerings. With program funds historically having been controlled by men, it has often been difficult for women to break through the good old boy network which perpetuates male orientation of courses to be offered, course design, recruitment, et cetera. As a society we must find a way to address that.

On the subject of displaced homemakers, it also appears that existing legislation, however well-intended, leaves much to be desired. As you know, Mr. Chairman, every State is obliged under the law to spend some money on displaced homemakers—men and women. The law does not say how much. They simply must do something.

Our tentative and unofficial data tell us that about $10 million were spent in 1980 on programs for displaced homemakers, with only 27 out of our 54 jurisdictions receiving Federal funds having utilized any non-Federal money on these programs. The data also indicate that a little over one-half of all of the money spent nationally for displaced homemaker programs, was spent in a single State, with many of the other States spending less than $1,000 a year on the program.

Incidentally, Mr. Chairman, the single State, which accounts for a little over one-half of all expenditures nationally for displaced homemakers. also has the distinction of accounting for over one-half, nationally, of all of the non-Federal dollars going into these programs. I am confident, Mr. Chairman, that you will agree with me that this is not quite the situation the Congress had in mind when the displaced homemaker authority was added to the list of mandated categorical requirements of the much-amended Vocational Education Act of 1963.

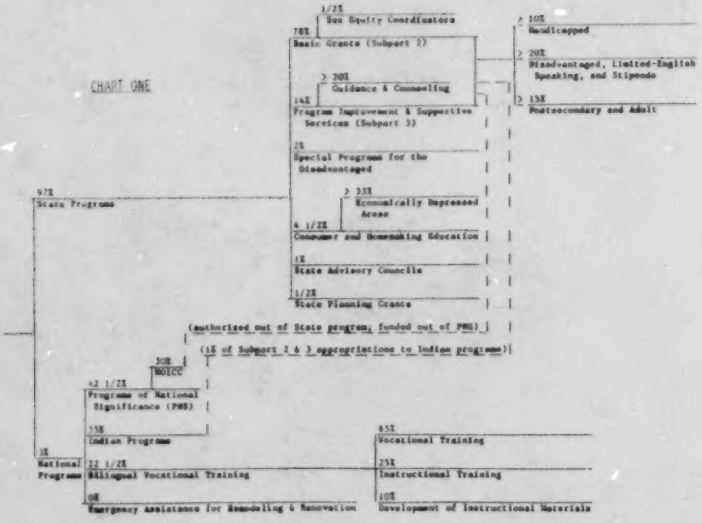
Allowing for the usual, normal and, acceptable statistical error in reporting, the data suggest that, unlike the expected stimulus of Federal funding, these two programs predominantly for women are not generating or levering very much State or local money into the programs at the operational level.

It is clear that there are problems with the existing legislation. I hope that both Houses will conduct hearings, including joint hearings, and come up with improved legislation to provide the access for women I mentioned a few moments ago.

At this point, Mr. Chairman, I would like to introduce for the record two charts which illustrate better than words the torturous audit and program labyrinth through which administrators must channel money in order to satisfy the requirement of the Vocational Education Act of 1963 with its numerous band-aid amendments of the past 19 years, to say nothing of the choking underbrush of Federal regulations layered on top of everything else.

Chairman PERKINS. Without objection chart 1 will be made a part of the record at this point.

[Senator Hatch's chart labeled chart 1 follows:]



Senator HATCH. The first chart shows the 22 categories of funding now required. You will note that there are numerous instances of set-asides within set-asides. I am told that some States are literally unable to establish either program evaluation procedures or fiscal audit controls which will satisfy Federal requirements for keeping track of the money.

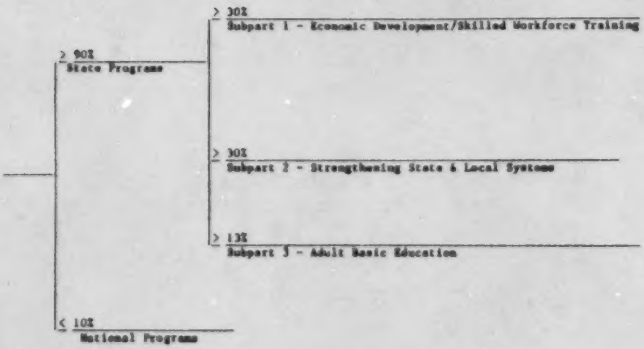
The second chart, Mr. Chairman, is what the program would look like after S. 2325 is enacted without amendment to reestablish the categorical funding it eliminates.

Chairman PERKINS. Without objection chart 2 will be made a part of the record at this point.

[Senator Hatch's chart labeled chart 2 follows:]

Flow of Funds - Vocational and Adult Education Consolidation Bill S. 2325

CHART TWO



Senator HATCH. Because the thrust of my bill is to enhance the employability of people consonant with economic development and skilled work force needs, program planning priorities will be established by the jurisdictions where the people live rather than by someone here in Washington. You will note, however, Mr. Chairman, that at the same time a very strong Federal presence is maintained. The Secretary of Education will have over three times as much money as he now has for programs of national significance. Because I know that Secretary Bell will be testifying in some detail on this particular feature of my bill, I will not elaborate further on it at this time.

Mr. Chairman, I regret the brevity of my appearance here today, and that time will not permit me to remain for the Secretary's testimony. I would be pleased to take any questions that you have for me. If I could respond to them in writing, it would be helpful to me—I have to be at the Budget Committee markup in the Senate this morning. Please forgive me and allow me to be excused. I did feel however, that I needed to get over here and say a few words about this bill which I think will help vocational education in this country like it has not in the past.

Chairman PERKINS. Thank you very much, Senator Hatch.

Senator HATCH. Thank you—it was a pleasure to be with you here today.

Chairman PERKINS. Thank you very much, Senator Hatch. Is the Secretary here?

Mr. Secretary, it is a great pleasure to welcome you before the committee again. You have been before the committee on several occasions. We will be delighted to hear you again this morning.

Mr. Goodling, do you want to say anything?

Mr. GOODLING. Only that I am happy to see that the young and ambitious, et cetera, have not shaken you off the ladder. I want to encourage you to hang in there. Those who play with swords eventually die the same way. That happens to the young and the ambi-

tious and perhaps to the ruthless. It is good to have you with us this morning. Hang in there.

STATEMENT OF HON. TERREL H. BELL, SECRETARY, U.S. DEPARTMENT OF EDUCATION, ACCOMPANIED BY ROBERT M. WORTHINGTON, PH. D., ASSISTANT SECRETARY FOR VOCATIONAL AND ADULT EDUCATION

Secretary BELL. The thing which encourages me to hang in there is the old expression where you turn it around a little bit and say, "Time wounds all heals." Are you ready for my testimony, Mr. Chairman.

Chairman PERKINS. Yes.

Secretary BELL. I am pleased to be here and to testify on the administration's vocational and adult education consolidation proposal. I thank the chairman for providing me this opportunity. We also express our appreciation to Senator Hatch who has introduced legislation in the Senate that is almost identical to the proposal that we have.

Before I begin, however, please allow me to take just 1 minute to express my personal condolences to you, Mr. Chairman, and to all members of this distinguished subcommittee, on the untimely passing of the ranking minority member of the full committee, John Ashbrook.

I know I speak for the many friends and colleagues John Ashbrook had at the Department and in the education community, in saying that his presence on the committee will be sorely missed. John Ashbrook's 21 years of distinguished service in the Congress is no better represented than by the outstanding contributions he made to good education legislation. His commitment to standards of excellence through effective legislative efforts will long be remembered. His passing leaves a void impossible to fill. Charlie Radcliff knows this well from having worked with him.

Mr. Chairman, the administration's proposed Vocational and Adult Education Consolidation Act was forwarded to Congress on April 1, just 1 day following Senator Hatch's introduction of his bill, S. 2325. While we may offer amendments at a later date to address some minor differences, the administration enthusiastically supports and endorses the Hatch proposal which has just been presented to you.

We believe that its enactment will enhance the role of vocational and adult education in local, State, and national economic development and will result in needed legislative simplification, increased flexibility, and reduction of administrative costs at all levels of government. I believe that these objectives are critical to future Federal involvement in vocational and adult education.

Let us consider the history of this involvement. As the chairman knows, the original vocational education legislation, the Smith-Hughes Act of 1917, was very simple. It provided support for training in agriculture, trades and industry, home economics, and for some teacher training. Over the years, succeeding bills were passed, and each of these bills introduced new purposes and activities into the law: Additional subject areas; support for administration, for construction, and for purchases of equipment; emphasis on

poor people living in depressed areas; concern with State and local planning and evaluation; protection of the handicapped, the disadvantaged, and the limited English proficient; and elimination of sex bias and sex stereotyping. Today, all of these concerns remain in the Vocational Education Act, and the law has become entangled in categorical subprogram, set-asides, and priorities It is often criticized for attempting too much and for having little overall purpose.

In recent years, the Vocational Education Act [VEA] has also acquired many process requirements. For perhaps justifiable reasons, the Congress became concerned with how well vocational education programs are planned, how effective they are, and whether they train people for jobs which really exist. Out of such concerns came pages of legal requirements related to State administration, planning, evaluation, and public participation.

The act also includes sub-State allocation criteria which are, at best, confusing and are in some instances contradictory. It includes the Vocational Educational Data System [VEDS] which has resulted in compliance problems for State administrators but has produced data of limited utility for planning or policy development purposes. Because of these and other requirements, the VEA is often considered one of the most intrusive of all Federal education laws. Ample evidence to support this contention has emerged from the recently completed National Institute of Education's vocational education study and from other research.

The other programs proposed for consolidation are currently authorized under the Adult Education Act. In previous hearings we have frequently been asked why the administration would want to consolidate vocational and adult education when the two programs appear to deliver different services to different target populations through different administrative systems.

We believe that the programs are complementary and are to a great extent aimed at the same population. The adult education program supports provision of basic literacy skills and, for a smaller number of students, preparation for the high school equivalency exam. Because many of the people who take adult education courses are enrolled for economic reasons—that is, to help them gain employment—they often have a need for programs combining instruction in basic and occupational skills. The same applies for many of our vocational students. While they may be gaining technical skills, they will not succeed in an increasingly sophisticated society without a firm grasp of basic academic skills.

Thus, vocational and adult education seem to be naturally linked. That linkage is reflected in the 14 States where the two programs are administered by the same State agency and in other States where the programs are often combined at the local level. Yet at the Federal level the two programs remain in separate pieces of legislation, each with its own allocation formula, planning, and application processes; national advisory committee; and regulations and procedures.

We are proposing to consolidate the vocational and adult education programs to reduce the administrative burden and to focus Federal support on programs which will contribute to economic development. I would like to outline briefly the major sections of our bill.

Part A, which has the general provisions in it, is a dramatic simplification of the parallel section of the current VEA. At least 90 percent of all funds would be made available to the States as block grants. The remaining 10 percent could be reserved for national programs in areas of particular nationwide importance. A proposed use report, replacing the existing plans, evaluations, and reports, would be required of each participating State on an annual basis. The report would include a simple explanation of proposed objectives, activities to be supported, allocation of funds, and the results anticipated, as well as other basic assurances and descriptions. The existing VEA formula for State allotments, which is based on population and inverse per capita income, would be modified to include an unemployment factor and to give a heavier weighting to adult populations. The existing national advisory councils on adult and vocational education would be replaced by a single national advisory council.

Part B of the act concerns State programs. A single block grant would be made to each State. The existing VEA categorical programs for basic grants; program improvement and supportive services; consumer and homemaking education; special programs for the disadvantaged; State planning; and State advisory councils would be eliminated, along with the minimum percentage requirements for guidance and counseling and the national priority groups. The set-asides and categorical authorities contained in the Adult Education Act would also be terminated. Matching, maintenance-of-effort, and most other fiscal requirements would be eliminated.

From their grants, States would be required to use at least 30 percent of the money for programs and projects specifically related to State and local economic development. This is the heart of the new direction in the legislation. From these funds the States could support training needed for new businesses and industries entering their areas, retraining for skilled workers who have lost their jobs because of technological change or economic downturn, the development of training programs in new occupational fields, and entrepreneurship training for men and women who want to start their own businesses. States would be encouraged to recruit for enrollment persons who are out of school, unemployed, and living in economically depressed areas. The bill strongly encourages involvement of business, industry, and labor in the design and administration of these programs, so that the training provided is related to actual skilled work force development needs.

In addition, the States would be required to use at least 30 percent of their block grant funds for strengthening State and local systems of vocational education. This requirement stems from a belief that improving the regular vocational education program can have a payoff in future economic growth.

Included in these program improvement activities would be programs and services targeted on the special needs of the handicapped, the disadvantaged, and the limited English proficient. Finally, at least 13 percent of the State grant would be used for adult basic education. This requirement would insure that essential services to a very deserving population are continued.

Part C is the national programs part. It would continue the national discretionary programs which have been supported in the past and consolidate them under a single authority while giving them a new focus on economic development. Allowable activities under this part would include a national center for research in vocational and adult education; programs for Indian tribes and Indian organizations; vocational training for the limited English proficient; the National Occupational Information Coordinating Committee; and other research, development, dissemination, and training activities designed to meet national skilled work force development needs.

In closing, I would like to reaffirm my strong belief that this bill would redefine the Federal-State partnership in vocational and adult education in a number of important ways. Its enactment would enable recipients of Federal funds to provide services more flexibly with a limited amount of Federal support. It would increase State and local control over the use of funds and strengthen vocational and adult education so that they can play an enhanced role in the economic development of the United States.

Before I turn to questions, Mr. Chairman, I would like to introduce my colleague, Dr. Robert Worthington, who is the Assistant Secretary for Vocational and Adult Education. I know he is well known to this committee. He is a distinguished educator and a vocational education leader who has had experience on the local and State levels. He is back in Washington for the second time as head of this particular program. I am pleased to have him with me here.

He has been largely involved in developing this bill and will be more knowledgeable about some of the technical details than I am.

It is a pleasure to present this brief outline of our program, Mr. Chairman.

Chairman PERKINS. Let me thank you, Mr. Secretary. I would like to ask you about the rationale for consolidating vocational education and adult basic education. To me, they are not related because adult education refers to the development of basic skills, whereas, vocational education relates to specific training for job skills. What is the reason for putting those two together when they are administered differently at the State level?

Secretary BELL. The big problem with adults who are in adult basic education programs is motivation. The adults need to see a reason—a very practical reason, for them to master reading, mathematics, English and basic skills. They need to attain a level of literacy so that they can work and be productive in our society. Most of them have not been motivated to want to do that.

We think that the direct relationship and application of their preparation for a job will help to motivate them to want to master basic English and mathematics and those things necessary for the job.

For example, an adult who is unemployed and who is training to be a machinist needs to have some fairly good mathematic skills. If the two can be tied together, we think we can do a better job of solving the motivation problem.

We think that has been recognized in the 14 States where they now have the same entity administer both programs.

Therefore, from our point of view, there is a natural tie in here because we can apply vocational training to the academic training and tie the academic training to the vocational. We think vocational educators recognized that when they used the term "related training" in their responses to this. I might ask Dr. Worthington to give the benefit of his experience on this. He has been directly administering it on the State and local levels.

Mr. WORTHINGTON. Mr. Chairman, as State director of vocational education in New Jersey, I was also responsible for adult education. It gave us a real opportunity to coordinate our efforts. One of the best demonstrations we have had of the close relationship of vocational education and adult basic education, was in the skill centers, which evolved as you recall under the old MDTA Act.

At those manpower development training and skill centers adults who needed basic education, vocational education, counseling, placement activities, et cetera, came to the same center, received what they needed at that time and then became employable. As you know, a person cannot succeed in today's economy without having that basic education first or along with the vocational education.

Chairman PERKINS. Let me ask you a question. What direction do you feel the Federal support for vocational education should take in the future? Do you feel that it should be entirely at the discretion of the States or do you feel that the Federal Government should play a role—a guiding role and a supportive role?

Mr. WORTHINGTON. The administration's proposal would provide discretionary approval of funds of 10 percent of the total allocation to the Secretary to determine needs, for example, in skilled work force shortages so that some of that money could be placed in that effort or certain other Federal priorities. Certainly, the proposal calls for the States to respond to certain needs such as the handicapped, the disadvantaged, sex equity, and the like in their proposed use report.

The States would submit that to the Secretary and describe how they would do that.

Of course the ultimate goal—our ultimate goal—is to hand these programs back to the States as has been suggested by the President. Ultimately, we feel that State and local agencies will be able to handle adult and vocational education.

Chairman PERKINS. Do you believe that if we turned everything over to the States after 1984 that the vocational education programs would continue to offer adequate training in 1985 and 1986 and that the State administrators would be in a happier state of mind if we turned it over to them?

Mr. WORTHINGTON. We certainly think that State administrators would be in a happier state of mind without all of the redtape and paperwork and burden we place on them with our present legislation. We feel that by simplification the proposal calls for we would be able to have more of the money go to the training needs of the people as determined by the States, not as determined by the Federal Government.

Chairman PERKINS. Has it seemed to you, Mr. Secretary, that the State vocational leaders want to assume this responsibility and want to see the Federal Government out of the picture?

Secretary BELL. I do not think they want to see us out of the picture. However, I think they want to have more discretion and more authority as to how they utilize their funds.

I think, as we discuss the issue of more authority for the States, we need to keep in perspective the fact that we put up about 10 percent of the money and they put up 90 percent. I think they would have more discretion under our bill to utilize the 10 percent we provide on the Federal level with the 90 percent which their legislatures appropriate for them. I emphasize again, as I did in my testimony, that we do not propose to merely hand it over to them with no guidance. I just want to emphasize again that there are certain broad guidelines in the law, such as the 30 percent provisions which we discussed in our testimony.

We are not just handing it to them without any guidance or requests as to what they earmark for priority consideration. They will have much discretion in utilizing the funds but we will require, for example, 30 percent of the funds. That 30 percent of the funds would be used for State and local economic development.

We think by giving broader percentages they will have more discretion. We think it is half way between handing it over to them and saying, "Do as you please" and the numerous categorical set-asides we now have which we think are perhaps a bit too prescriptive.

Therefore, we think it is a good in-between step. If the President's New Federalism proposal is enacted, there would be a gradual phasing over in that regard. I think it is up to 1987 or 1988 before it would be totally phased over to the States. First, as you know, it would be up to the discretion of each State as to whether or not they would receive the funds in the revenue discretion or whether they would continue to receive it as categorical money.

We anticipate that the States would do one or the other during that time. During 1986 and 1987, there would be the phase over period. Even then we want to give some of the percentage—the broad percentage set aside which is in our bill. We are not moving totally to where we would just hand it to them. We are asking them to give us reports so that we can report back to you on what the results are in that regard.

Both Dr. Worthington and I have worked on the State level. Based upon that experience, we have a lot of faith in the wisdom and ability of the States to make wise decisions. We also say to you again—they are putting up 90 percent of the money and we are putting up 10 percent. That is another point that is persuasive concerning our view, Mr. Chairman.

Chairman PERKINS. Mr. Goodling?

Mr. GOODLING. Thank you, Mr. Chairman. As Bert Lance always said, "If it ain't broke, do not fix it." I suppose that is what most people in vocational and adult education are probably saying today when we talk about making changes. I realize that the way it is presently set up, we have so many set-asides that I do not know how everyone can keep after what they are. I am wondering if there is not some way—I think your legislation is probably a step in that direction—in bringing some kind of balance between flexibility and protection. Republicans—I have to toot our horn a little—have played a very major role in vocational education in

1963, 1968, et cetera. We are equally as concerned as the chairman is that what we started out to do is really carried through.

One of the concerns I guess I have—the very knowledgeable Under Secretary responded when asked this question. He was asked the question if this proposal to consolidate the vocational education program with Federal aid to adult education means an eventual end to all Federal aid in this area. Brother Jones replied, "Eventually, yes we are suggesting that this consolidation be passed so that when elimination comes there will be a few years to phase out the funding." In listening to your response, I do not believe I get the same kind of response—or did I misunderstand?

Secretary BELL. I do not think that we are inconsistent with each other. I think he was referring to the President's New Federalism initiative that ultimately by 1988 would include this particular area of vocational and adult education under the Federalism plan, along with the authority to levy the excise taxes on gasoline—I am not sure about gasoline, but alcohol and tobacco and a couple of other areas like that which are subject to Federal excise taxes.

As you remember the President's state of the Union message referred to the New Federalism. The proposal of the President is that ultimately this would evolve back to the States. I think that is what Dr. Gary Jones was referring to in his testimony. This bill would be an interim step in that direction. If the New Federalism legislation did not pass, we would have this legislation. We think that this legislation strikes a good balance between too much and not enough Federal guidance on the use of the funds.

Mr. GOODLING. I do not want to over simplify what Dr. Worthington said, but I got the impression that you said that as the director in New Jersey you were combining the programs anyway. Did I have the correct impression?

Mr. WORTHINGTON. As State director of vocational education in New Jersey, I was also director of adult education. I had a staff under me.

Mr. GOODLING. You were already combining them?

Mr. WORTHINGTON. Yes. There are 14 States, Mr. Goodling, which have the same administration and a divisional bureau at the State education agency which works quite well.

Mr. GOODLING. So there is nothing at the present time which says that they cannot combine the two?

Secretary BELL. The thing that it does gets back to your comment with regard to Bert Lance—the quote you made with regard to him that, "If it is not broke, do not fix it." I guess we would have to say—to speak in a vernacular that it is not broke, but it is more tangled than it ought to be. The machinery would function much more effectively, we think, with our proposals. We sincerely believe that there are too many categorical set-asides now and that this is an obstruction and a handicap to doing what Dr. Worthington indicated that they did in New Jersey. We are saying, why make it so hard for them?

The legislation is up for renewal and we think that this proposal is better than the existing legislation.

Mr. GOODLING. I think in Senator Hatch's testimony he encouraged us to get as much testimony as we could on the issue and see if we can do away with some of fears that some of us and certainly

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some of the people out in the field have in relation to this whole idea.

Last year, in our consolidation we made very sure that we protected title I. We took away those kinds of fears. I would agree that it is somewhat tangled, but on the other hand I want to make sure that when I try to untangle a fishing line in some instances, that 2 hours later I don't have a bigger mess than I had when I started. That may be due to the person that is doing the untangling, I do not know. That is what I want to make sure does not happen. Thank you, Mr. Secretary.

Chairman PERKINS. Mr. Kildee?

Mr. KILDEE. Thank you, Mr. Chairman. It is good to have you before us, Mr. Secretary. I have been told that sometimes the perfect can be an enemy of the good. Sometimes in seeking to achieve what we may think is perfect, we lose that which is good and functioning. I do that when I am working at times. Sometimes in my attempts to improve something that already looks very good I try one more time and accidentally destroy that which was good.

Secretary BELL. I have had that same problem in trying to get a car to run just a little bit better. I wish it would run as good as it did before. I know where you are coming from.

Mr. KILDEE. I hope that does not happen to Federal education programs. I would disagree with your concept of perfect in this but I think that axiom could give us a lesson.

On last May 28, in your testimoney before this subcommittee and the Subcommittee on Select Education and you said:

> I think most of the funding for education ought to stay as it has with the State and local levels. I think there are reasons for us to have Federal assistance programs where we have problems that are nationwide in scope. With a lack of it, the solution is going to result in serious difficulties in our economy in our competitiveness in international trade.

That can be found on page 100 of your testimony. It would certainly seem that vocational education is very much linked to our economy and to our trade. Yet you are proposing not only to cut this program, but to eventually turn it over to the States without any Federal interest shown with this fiscal policy. Does not vocational education clearly fit into a national purpose and a national goal? Reindustrialization would seem to be a national purpose and a national goal to be served by a Federal role in vocational education.

Secretary BELL. Yes. This is the very reason for the focus that we have for this legislation. We would emphasize again the phase over from this to 1988, and in the interim time we can see what our experience is with it. I would emphasize that we have a set-aside here of 30 percent for meeting these economic needs. That recognizes the very concern that you emphasize. In addition to that, a provision in the bill would interest you. There is more weighting in our proposal for unemployment. We think that Federal resources ought to go where unemployment is high. Your State, where there is a lot of unemployment now, would benefit from this piece of legislation. Later on, if unemployment was high there, and unemployment was high some other place, then the funds would follow accordingly.

Mr. KILDEE. Has your legislation been introduced in the House yet?

Secretary BELL. I do not believe it has been introduced yet.

Mr. KILDEE. I have not yet had a chance to evaluate it and see how it would effect a State like Michigan. I would hope it would have a certain counter cyclical element to it. However, let me tell you about the problems we have in Flint and why I oppose the cuts in vocational education and this eventual transfer to the States.

Had the transfer of responsibility for vocational education to the States which you propose occured 10 years ago, my State would now be in a terrible situation; completely unable to discharge its responsibility in delivering vocational education. My State is strapped financially and just would not have the resources to do what you propose. I am glad that we did not elect a President 10 years ago who was pushing this consolidation package at that time because we would now be the victim of that package.

Let me give you an example. My city of Flint has an unemployment rate of 25.4 percent That is terrible. With that level of unemployment people have both the time and see the need for additional education and particularly vocational education. Yet, Mott Community College, which is one of the deliverers of vocational education services in Flint, in those programs most likely to lead to immediate employment has reached its capacity in both staff and equipment. They cannot handle any additional students in these programs. It would seem to me that this is preeminently the time to expand rather than cut vocational education—yet we are being asked to approve a 32-percent cut in its funding. It seems inconsistent with our problems and our attempt to reindustrialize our country.

Secretary BELL. You see along with that reduction is another factor; and that is that the resources under the allocation formula that we propose would benefit a community like Flint in two ways. We would allocate the resources where unemployment is high and then in addition to that, we are giving a little more weighting than we have had in the past for adults. In both instances the community college you mentioned would benefit. At least from my point of view, the points that you are making are just adding more praise to our bill.

Mr. KILDEE. That is not my intent [laughter].

Secretary BELL. We just think that it is helpful and Dr. Worthington has a point to make on that regard.

Mr. WORTHINGTON. I would like to mention that in our proposal the State is required to use 30 percent for economic development and skilled work force needs, 30 percent for program improvement, and 13 percent for adult education. If you add that up it does not come to 100 percent—it leaves 27 percent that your State could use just for those priorities that you have mentioned. It gives the States total flexibility on that 27 percent. We are not telling the States how to do it. The States could move that back and forth to meet their needs. If your community college needed a new program, the States could do that.

Mr. KILDEE. Suppose this program had been put into effect 10 years ago and the transfer had taken place such that the States had assumed the responsibilities you propose. Where would Flint, for example, be finding the wherewithal to deliver these services?

Secretary BELL. If that had happened 10 years ago our economic recovery program would be in full force now and they would be in great shape.

Mr. KILDEE. You are an eternal optimist—you really are a believer.

Secretary BELL. You would not have inflation and you would not have the indebtedness—we would be in a lot better shape if this had happened 10 years ago.

Mr. KILDEE. I just do not believe that. You and I, I suppose, start out from different premises. I do not think that so far Reaganomics has worked. None of the predictions that Mr. Stockman and Mr. Reagan made have taken place. We do not have a bull market at all. We do not have a recovering economy at all.

Secretary BELL. Mr. Kildee, our problem—and I do not want this to sound snide—but our problem in this country is that we have a penchant to demand instant results.

Mr. KILDEE. We were promised that.

Secretary BELL. Not this quickly.

Mr. KILDEE. David Stockman sat in the very chair you are sitting in and told this committee that by last August we would have a bull market. The week that the Economic Recovery Tax Act was passed, the Dow Jones average was 1,000, now it is in the 800's, having dropped below 800 at one time. Nothing that was predicted so far has taken place. Once in a while you need a little sign to believe, right?

I do not see any signs.

Secretary BELL. That little sign will occur if we can get some action on the budget that we are wrestling with right now. I am encouraged now. There was a slight sign by the action in the Senate Budget Committee late last night. We are getting all of the whisperings here of quite a blossoming Spring. Just have patience and faith with us and you will feel a lot better about it. It has not been all that instantaneous and the recession has been deeper than we had anticipated but we are on the right trail with this cutting back on spending and on this tax deficit situation. I know you are weary of hearing it, but we really believe it. If we could just persuade you to have faith in it, it is going to come around.

Mr. KILDEE. My mother told me when I was at home last week, "You know, it reminds me of when Herbert Hoover was President during the Great Depression. Occasionally I would believe him when he would say, 'Prosperity is just around the corner' but after a while I could not believe him anymore." She does not believe Reagan anymore. My mother is 82 and is pretty wise. She does not believe that Reaganomics is going to work.

Secretary BELL. You see, these are entirely different circumstances than back in the 1925-32 crash.

Mr. KILDEE. That is what Hoover said also [laughter].

Ted, you know I hold you in high regard.

Secretary BELL. As you said, I asked for the interchange, and I enjoyed it very much [laughter].

Mr. KILDEE. Thank you very much, Ted.

Chairman PERKINS. Mr. Secretary, I want to compliment you for being a loyal supporter of the President. I do not agree with your views, but nevertheless I believe in anyone that works for a man

being loyal to him. I can understand your viewpoint. I personally feel that we will be making a mistake, that it will not be in the interest of vocational education for the Federal Government to get out of the picture. I think we have given much encouragement in certain areas of vocational education. There was such a vacuum when we enacted this legislation. If we had failed to enact the legislation in 1963 do you think the States would have filled the vacuum and that all the progress we have seen up to the present time would have been made?

Secretary BELL. Dr. Worthington would you like to draw on your experience and respond to that question?

Mr. WORTHINGTON. Yes, Mr. Chairman. There is no question that the 1963 act provided a great stimulus to State and local communities. As you know, there are quite a few area technical and vocational schools constructed. In your own area of Appalachia, some 400 million dollars' worth of facilities was constructed. We did lack facilities in 1963. We lacked the understanding of planning, and we lacked several other aspects in vocational education. Those were stimulated by the 1963 act. I believe now that the States are ready and understand the problem and have the public support so that vocational education is not only supported at the State and local level, but it is demanded.

I am sure that in future the States will continue to invest what they have been investing in the past, Mr. Chairman.

Chairman PERKINS. Mr. Kildee?

Mr. KILDEE. I have no more questions.

Chairman PERKINS. Mr. Secretary, let me thank you for your appearance here this morning as well the other administration representative. We were delighted to have you. We invite you to come back any time.

Secretary BELL. It is always a pleasure to appear before this subcommittee. Some occasions are more pleasurable than others.

Before we adjourn, if I could refer to the comment that you made and I appreciate your making it—about being loyal to your employer. I have been an advocate of block grants since I was Acting Commissioner back in 1970. I think that the consolidation and the simplification provided in this bill—I want to say this to you sincerely and as convincingly as I can, so that there is no question about whether or not I am just up here because it is the administration's point of view—I am up here because it is administration's point and I share that point of view fully and enthusiastically. I believe in block grants, I believe in it based upon the experiences that I have had on both the State and local levels. I believe in it because I think that our legislation often gets too prescriptive, and I think we would improve that act considerably if we would phase over to this one.

I wanted to just make sure that the record emphasized this because I have for years and years felt that the block grant program consolidation approach would be useful to American education and would improve it considerably. Thank you very much, Mr. Chairman.

Chairman PERKINS. Let me thank all of you again. We look forward to another appearance from you. The subcommittee stands adjourned, subject to the call of the Chair.

[Whereupon, at 10:40 a.m., the subcommittee was adjourned.]
[Material submitted for inclusion in the record follows:]

NEBRASKA COMMISSION ON THE STATUS OF WOMEN

P.O. Box 94985, 301 Centennial Mall South, Lincoln, Nebraska 68509
(402) 471-2039 - 471-2144

May 17, 1982

Congressman Carl Perkins, Chairman
Committee on Education and Labor
2328 Rayburn
House Office Building
Washington, D.C. 20515

Dear Congressman Perkins:

The Nebraska Commission on the Status of Women strongly urges your opposition to the Vocational Education Act - S.2325. This act would completely obliterate current Vocational Education Act provisions to overcome sex discrimination.

Women are two-thirds of the nation's poor. S.2325 completely ignores the poverty which stems from sex discrimination in education and employment and lack of child care and other support services crucial to women.

At a time when anti-sex discrimination provisions of the 1976 amendments to the Vocational Education Act were beginning to increase vocational options for women, S.2325 would eliminate incentives and requirements for states to provide equal opportunities.

Thank you for your consideration of this matter.

Sincerely,

Shirley Trauger

Shirley Trauger
Chairperson

ST/td

EQUAL OPPORTUNITY EMPLOYER

Charles Thone, Governor
Shirley Trauger, Commission Chairperson
Jean O'Hara, Executive Director
Marian M. Layman, Assistant Director for Administration (402) 471-2144
E. Shelton Burden, Assistant Director for Programs (402) 471-2250

STATE OF OHIO
DEPARTMENT OF EDUCATION
COLUMBUS

FRANKLIN B. WALTER
SUPERINTENDENT OF
PUBLIC INSTRUCTION

JAMES MILLER
DIRECTOR
DIVISION OF EDUCATIONAL SERVICES
Room 811
65 South Front Street
Columbus, Ohio 43215

April 27, 1982

The Honorable Carl D. Perkins, M.C.
U.S. House of Representatives
2328 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Perkins:

We are writing to express our concerns regarding the proposed block grant in adult and vocational education. We have long been a believer in the importance of the federal role in education and thousands of Ohio's children and adults benefit annually because of the leadership of members of Congress such as yourself.

Our State Board of Education is opposed to the consolidation for a number of reasons which I shall enumerate. Their overall concern rests with the fact that both programs are functioning very well at present and are producing well-documented positive results. There are almost no advantages in consolidating these two programs, particularly with the built-in reduction of funds accompanying the proposed block. We simply cannot absorb the cuts. Department of Education estimates of savings generated from reductions in administrative costs and paperwork are grossly overstated and in no way related to reality.

Some of our specific concerns are as follows:

1. Adult and vocational programs in Ohio generally serve different purposes and clients. The adults who enroll in ABE are those who are generally functionally illiterate and who lack the basic academic skills necessary for technical skills training. Currently, adult and vocational education programs already work closely together, where appropriate, so condolidation offers no discernible advantages in this aspect.

2. Many of the clients that enroll in our adult basic education programs will not travel to the area joint vocational centers. They do not have the transportation; the vocational schools are often located outside their community and many simply don't feel comfortable in attending them. As a result, they much prefer to enroll in neighborhood centers. This is particularly true in the inner city. We then funnel those adults who have expressed an interest in skill training into the area vocational schools.

3. The legislation calls for adult education to receive thirteen percent (13%) of the total federal grant which has been proposed at the $500 million level of funding. That means adult education would be reduced from the current level of $86.4 million to $65 million. The effects of such a cut would be catastrophic on current services.

4. In many states, the consolidation would result in the ironic effect of creating a dual system in adult and vocational education and, thus, creating more administrative overhead at both the state and local levels. This would occur because vocational and adult education programs are frequently administered by different state agencies. Moving the federally assisted component of adult education into the vocational system would seriously fragment federal and state programs of adult education in many states.

Your support in maintaining adult and vocational education at the current categorical level and targeting money to meet special needs would be greatly appreciated.

Sincerely,

James W. Miller, Director
Division of Educational Services

JWM:sym

STATE OF NEW JERSEY
DEPARTMENT OF EDUCATION
225 WEST STATE STREET
TRENTON, N.J. 08625

OFFICE OF THE COMMISSIONER

April 21, 1982

The Honorable Carl D. Perkins
Chairman, Subcommittee on Elementary,
Secondary and Vocational Education
House of Representatives
Washington, DC 20515

Dear Mr. Perkins:

In the reauthorization hearings held last October, the Subcommittee on Elementary, Secondary and Vocational Education focused its attention on a national study of vocational education mandated by the Education Amendments of 1976 and conducted by the National Institute of Education. This study of vocational education was received at that time by your subcommittee as a comprehensive resource valuable in the process of considering a reauthorization of the Vocational Education Act.

Because you have gone on record as preferring "the most thorough and fair set of hearings possible on this subject" (Sept. 17, 1980), those of us who have state leadership in vocational education in New Jersey wish to add to your subcommittee's bipartisan considerations by commenting on the N.I.E. study and its utilization by the Congress. We have two concerns which were not adequately addressed by the testimony or material presented at your subcommittee's October 21, 1981 hearing.

First, we have a concern that the Congress may not actually utilize the major findings of this study to make rational decisions related to the future of federal assistance to vocational education. We find it significant that this year programs such as vocational education are being seriously cut or eliminated, not on the basis of rational considerations such as those surfaced by the N.I.E. study, but on the basis of political expediency, inflation control, and defense budget increases. We respectfully remind you of the Congress' long standing bipartisan support for vocational education throughout the twentieth century--a support that has emphasized a rational basis for decision making. We recommend that the N.I.E. report's conclusions should play an important role in the Congress' current reauthorization considerations.

Secondly, we have a concern that the Congress understands some limitations of the N.I.E. study, the most notable of which is a failure to make recommendations specific enough to be useful to the Congress.

The remaining pages of this letter will document these two concerns in greater detail.

I. THE MAIN THRUSTS OF THE N.I.E. REPORT

Although the cost of this research project (over $5 million) and the extensiveness of its published reports (at least eight volumes) are in themselves impressive, the value of the N.I.E. study of vocational education should be affirmed on the basis of how rigorously it addresses its mandates. The study had a general mandate to discover changes needed in the legislation and specific mandates to examine: the distribution of federal vocational education funds; the compliance with federal law; the assessment of program quality and effectiveness; and the review of effectiveness and improvement of programs. (P.L. 94-482, Title V, Part B, Section 523(b)). Since all the above requirements appear to have been substantially addressed, the Congress should consider the major findings of the N.I.E. report as key testimony for developing a reauthorized or revised Vocational Education Act.

Unfortunately, in trying to be "relevant" to the decision making tasks of the Congress, the final report of the N.I.E. study was phrased in terms that are more negative than warranted by the actual findings of the report. This negative phrasing of the findings and conclusions gives aid and comfort to those who seek any occasion or any excuse to drastically cut federal support for this important form of education.

If the findings had been appropriately phrased in more neutral language, the Congress would have been informed of the following three broad conclusions of the report.

One, the Vocational Education Act of 1963, as amended, has attempted by a variety of reasonable strategies to improve the quality of vocational education and training, and to improve the ready access by all persons to such vocational preparation. These broad goals of the Congress are a matter of long term bipartisan support of the Congress, and are not "tested" as such by the N.I.E. report. This report does indicate that a number of factors, including insufficient federal funds, have prevented some of the strategies provided in the Act from effectively fulfilling the Congress' two broad goals. Newly selected strategies will be appropriate for a reauthorized or revised Act. However, it must be emphasized that the N.I.E. report does not support the reduction of either the federal role or federal financial support for vocational education.

Two, federal strategies concerning vocational education, as found in the Act, vary in their effectiveness. Federal strategies concerning special needs students, overcoming sex bias and sex stereotyping, improving planning, and strengthening program evaluations were relatively effective. In contrast, major discrepancies were discovered between the purposes of some strategies and the means selected for achieving them. This was especially true concerning the funding distribution formula and program improvement. On the basis of these findings, the Congress should give high priority in its reauthorization or revision considerations to utilize more effective strategies related to funding distribution and program improvement.

Three, through the Vocational Education Act of 1963 as amended, the Congress sought to influence the local conduct and direction of vocational education and training even though it did not have direct mechanisms for controlling such operations. The Act mainly dealt with state governments, not with school districts. The means which the Congress used in the Act for influencing the local operation of vocational education varied from recommendations permitting broad discretion to highly specific requirements such as set-asides, formulas or detailed procedures. The N.I.E. report encourages the Congress to deal more realistically with the means and time frames by which the Congress may influence state and local vocational education programs. It must be emphasized that the N.I.E. report does not support the concept of an unrestricted block grant for vocational education. The report affirms that attaining highly specific federal objectives in a statute ordinarily requires the extensive limitation of options by state and local participants.

As restated, these three broad conclusions should provide a clearer and more positive perspective for the Congress as it seeks to formulate a reauthorized or revised Vocational Education Act.

II. WEAKNESSES OF THE N.I.E. REPORT

Generally speaking, the N.I.E. report is a reliable base for deciding federal policy and strategy. However, in a number of instances, the data cited by the report does not match what is reported as a finding, conclusion or recommendation. The most important of these lapses are listed below.

The data cited by the report does not substantiate the report's conclusion that there are no significant differences in employment outcomes among postsecondary students, comparing vocational curriculum participants with academic curriculum participants. Actually there is at least one highly significant difference in employment outcomes: persons prepared to work in a specific trade or occupation would be eligible to enter that type of employment, while those without such preparation would not be eligible.

The report cited evidence that little research has been conducted on the effects of consumer and homemaking education on learners. The study itself made no conclusive statements about the effectiveness of such programs. It would have been logical to make the effectiveness of consumer and homemaking education the target of intensive research in the future. This was not proposed by the N.I.E. report. Although the study was designated to evaluate the Congress' choice of statutory mechanisms for gaining improvement in vocational education, the study ended up judging--without evidence-- that consumer and homemaking education had been a failure.

The N.I.E. report deals with local planning chiefly in the context of coordination with CETA or in the context of state planning. The report could and should have made a strong recommendation for the strengthening of local planning through a variety of mechanisms, especially since the section on evaluation concluded that evaluations of local planning were extremely helpful in improving programs.

The report often suffers from a reluctance to make specific recommendations to the Congress. For example, the study greatly discounts the value of much of the data presently being collected concerning vocational education in the United States. However, the report fails to specify which data is most meaningful and necessary for national, state and local decisions concerning the vocational education enterprise.

* * * * * * * * * * *

Mr. Perkins, your leadership and support for vocational education are recognized nation-wide and we have every confidence that you will relay these concerns of ours to the whole subcommittee, especially since these comments relate to the most recent comprehensive report prepared to assist the Congress with reauthorization of the Vocational Education Act.

Respectfully submitted,

Gustav H. Ruh
Acting Commissioner of Education

OVERSIGHT ON THE ADMINISTRATION'S BUDGET PROPOSALS FOR VOCATIONAL EDUCATION

TUESDAY, MAY 18, 1982

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, D.C.

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2175, Rayburn House Office Building, Hon. Carl D. Perkins (chairman) presiding.

Members present: Representatives Perkins, Kildee, and Craig.

Staff present: John F. Jennings, counsel; Nancy L. Kober, legislative specialist; and Richard DiEugenio, minority legislative associate.

Chairman PERKINS. Good morning to you all.

The Subcommittee on Elementary, Secondary, and Vocational Education is continuing hearings this morning on vocational education. Today and tomorrow we have scheduled witnesses representing different instructional programs and disciplines within vocational education.

We hope to address several issues in our hearings this week. First, we would like to receive testimony on the administration's budget and consolidation proposals for vocational education.

The administration is proposing to consolidate the Vocational Education Act and the Adult Education Act into a block grant and to cut the funding for fiscal year 1983 by 32 percent.

We would also like the witnesses to discuss the accomplishments, problems, and needs of the vocational fields they represent and to offer any recommendations for improving the Federal vocational education legislation.

We have a panel this morning. As I call your names, come around and sit down.

Dr. Michael J. Dyrenfurth, associate professor, industrial education, University of Missouri-Columbia, Industrial Arts.

Dr. Jim Brown, National Association of Vocational Special Needs Personnel, University of Minnesota.

Dr. Robert Robison, State trade and industries supervisor, State Department of Education, Missouri.

Mr. David Lockwood, president and chief executive officer, Inconet Corp., New York.

Ms. Yolanda Dolecki, supervisor of health occupations, Missouri State Department of Education.

We will hear from you first, Mr. Dyrenfurth.

Without objection all your prepared statements will be inserted in the record and proceed in any manner you prefer.

STATEMENT OF MICHAEL J. DYRENFURTH, ASSOCIATE PROFESSOR, INDUSTRIAL EDUCATION, UNIVERSITY OF MISSOURI-COLUMBIA, INDUSTRIAL ARTS

Mr. DYRENFURTH. My name is Michael J. Dyrenfurth. I am employed as an associate professor of industrial education within a comprehensive department of practical arts and vocational technical education.

For your consideration and for the formal record, I have prepared testimony entitled "Industrial Arts, an Esssential Component of the Vocational Education Delivery System."

I would like to note for the record that testimony is actually in two parts, the first is the narrative part that presents our recommendations; the second, appendix A presents a statistical supplemental compiling industrial arts data from a variety of sources that are not generally found together.

My purpose here today is quite straightforward. I am proud to be able to represent the profession and share with you some of the problems and some of the successes of the industrial arts field.

You remember they used to call that shop; it was found occasionally in basements, sometimes out in the field, in behind the building. But then, as now, some very important things happened in that facility with youngsters. That is what I am here to talk to you about.

These important things involve the premise that there is more headwork and handwork in shop work and what we are concerned with then, and it is almost a cliche in our field that we were more concerned with the finish on the student than the one on the project. We have carried this tradition of investing in our youth into the technological era and we are proud of it.

In the next few minutes I want to share these successes and problems that we are experiencing today. I will address myself to the points you have asked about in prior communications. I want you to know that I am advancing a position that represents the entire industrial arts profession. I can say this because my comments reflect the inputs of both the Industrial Arts Association and those of the Industrial Arts Division of the American Vocational Association, and I serve as vice president for that group, of course.

But let's talk about the enterprise of industrial arts so that we have a common base to begin with first.

Industrial arts has evolved; I need you to imagine if you will, envision out there some 6 million students per year taking industrial arts. Essentially this means 240,000 classes being offered by 55,000 teachers in some 20,000 secondary schools across the Nation. That amounts to 74 percent of the secondary schools.

Our enrollment encompasses 30 percent of the Nation's entire 19.5 million enrollments. To do this, something to depict the scope of the Federal effort, there are over $6 million Federal invested in

industrial arts, and almost $88 million non-Federal, in other words, State and local funds.

Now, that sounds like a lot of money to me, and to you undoubtedly, but when we work it out in terms of the dollars per student, we are investing about $16 per student per year.

The purpose of sharing these figures with you is to indicate to you the scope and diversity and range of industrial arts. The important thing, however, is not our size but what we do with your youngsters. What are our goals and objectives?

To do that, I would advise you to refer to figure 1, page 6 of the testimony because it depicts industrial arts students and their study of the subject matter of industry and technology. They do that via curriculum pursuits in three major clusters, and the like.

Now it is important to recognize that this is where students at fairly early grade levels get their first exposure to the world of work, to industry, to technology, through these clusters, and particularly so, sir, that they do so in an application of hands-on oriented manner that is different, provides an alternative to some of the other learning experiences in schools.

The net result, to summarize quickly the impact of industrial arts, is a very important one. We are convinced that the organized and comprehensive base of industrial and technological skills, knowledges, and attitudes is vital to our further welfare in vocational education. Students assess their potentials, they increase their ability to make meaningful occupational choices, and they develop this broad comprehensve knowledge base that enhances their success in further vocational education.

I need to point out to you and to the members present that there are in fact other goals industrial arts addresses as well, but these are the ones most germane to the issue of vocational education.

Now, allow me to point out the effect of your wisdom in 1972 and more recently in 1976 when you defined and incorporated industrial arts in vocational legislation. Essentally this effort resulted in 1.7 million students enrolled, round figures, in industrial arts courses that received some form of Federal funding through the VEA.

We have invested about $4 million into equipment and about $400,000 each into teacher education, supervision, teacher salaries, curriculum development, and the like. This investment has increased the effectiveness of our field considerably. It has tied us more closely in with business, industry, and labor; it has helped us to upgrade teachers via increased in-service efforts, to engage in major curriculum and research projects as well as to, and very importantly, increase the level of supervision.

We believe we are effective and we can supply and have supplied data on the effectiveness of industrial arts in our table of—in tables in our appendix.

I have examples of one State built into the testimony, the State of Minnesota, which has conducted very nicely detailed followup studies, that point out to our students having higher employment rates, fewer unemployed, average age, that is third among the vocational subjects after only agriculture and T. & I. So we feel there is a high degree of success.

Mr. Chairman, I need to point out also that all is not well and we do hurt. We feel we are doing a lot of things well but there are some ways that we are hurting. Let me show you how.

We have a critical lack of leadership at national and State levels. There are only 70 industrial arts supervisors of varying kinds in State departments of vocational education. Essentially that means each supervisor, if we divide it out, has roughly 600 to 700 teachers that he or she is responsible for. That is an unbearable ratio out there. Furthermore, that 70 has recently been reduced by the effects of several cutbacks in vocational funding and we are down by 13, in a recent State—let me say that again.

We are down 13 supervisors in a recent survey of 21 States. We have another problem, that we are not completely accepted in the vocational education family; we are, in the jargon, a new kid on the block. We have to overcome some traditions and beliefs that die hard. Slowly we are being built into more and more State plans for vocational education, about 33 in all now. But, given the tight money and the competition that is out there in the States, this represents a 9-percent decrease from last year.

Then you have heard the story before but I need to point out that we are feeling the pinch here as well; our facilities and our equipment hurt. They include much old and little new technology. We know the future in new technology. The national average of equipment spent by departments in industrial arts is only $4,200 being spent on equipment per year.

Now, if we look at the price of technological hardware, nowadays it is hard to imagine how we can operate on that basis. Technology has simply advanced faster than our ability to support our schools with cluster-based laboratories.

Finally, I need to point out a very serious shortage undermining the vitality and strengths of our profession, having drastic impacts on youngsters. There is a teacher shortage of about 1,000 to 1,400 teachers per year. This means essentially that there are perhaps some 5,000 classes, an estimated 75,000 students not served.

Now that is a number that scares us considerably when we look at the fact that industrial arts in some of the lower grade levels provide the first opportunity systematically that the school invests whereby young women can gain an exposure to the world of industry and technology and have a chance to break down some of the preconceived notions that both they and their ultimate employers might have with regard to the suitability of careers in the industrial technological world.

I guess if those are the problems, I need to mention and deal with the proposed vocational and adult education consolidation bill in terms of whether or not that is a feasible way of addressing these problems. Unfortunately, I feel that it is not. It proposes to do more with less. We are repeating the mistake Henry David pointed out we did with the 1976 amendments; the bill's overall funding level is too low, it jepardizes what we believe in our profession to be a necessary and ongoing presence, Federal presence in vocational education; we wish the industrial arts presence were stronger. And there are also several mechanical difficulties.

In the interest of time and not to run you too long, we have detailed those points explicitly in our testimony, and those are found on pages 25 and 26.

I need to indicate that there is a need for a—we perceive a need for revision of one of the sections to indicate the desirability of parallel and free-standing availability of industrial arts, consumer and homemaking and vocational guidance, because it reads now in a way that might be confusing.

There are six groups of recommendations that, in our view, need to be considered in establishing legislation pertaining to comprehensive vocational education and to the role of industrial arts as an essential component of such a system. Specifically, and based upon the preceding testimony, the industrial arts profession seeks consideration of its recommendations, listed in order of group priority, in the areas of: Legislative provision for industrial arts, leadership and personnel development; teacher shortage and teacher education; industrial arts program support in the schools; program improvement/support services, and data collection and analysis.

Chairman PERKINS. Thank you very much for excellent testimony.

Mr. DYRENFURTH. Thank you, Congressman Perkins.

[Prepared statement of Michael Dyrenfurth follows:]

PREPARED STATEMENT OF MICHAEL J. DYRENFURTH, PH.D., INDUSTRIAL ARTS DIVISION VICE PRESIDENT AND MEMBER, BOARD OF DIRECTORS, AMERICAN VOCATIONAL ASSOCIATION

Michael J. Dyrenfurth is Associate Professor of Industrial Education in the Department of Practical Arts and Vocational Technical Education, College of Education, Unversity of Missouri-Columbia, Missouri 65211.

This testimony was developed on the basis of cooperative inputs from the Industrial Arts Division of the American Vocational Assocation and the American Industrial Arts Association.

Acknowledgements

Because of its potential impact, the efforts of many dedicated professionals were invested in this document. It is important to acknowledge such work both for the thanks that these true professionals deserve as well as for the increased validity that is afforded a document with profession-spanning input.

Specifically, this document's key directions stem from insightful analyses by Kendal Starkweather (Executive Director, American Industrial Arts Association), William E. Dugger, and Orville Nelson, (Industrial Arts Division legislative chairperson and Industrial Arts Division policy committee chairperson, respectively). Additionally many constructive suggestions were advanced by leaders from each association, including James E. Good, Ralph V. Steeb, Samuel Powell, Ron Foy, Robert Nogueira, Hoyt Kenmore and Harold Berryhill.

A significant debt is also owed to Yves Asselin who labored many hours over the difficult task of assembling and presenting the data descriptive of the industrial arts enterprise, much of which was collected originally by the highly acclaimed national Industrial Standards Project and its dedicated research team, led by William Dugger. Marvin Sarapin's funding analyses were also most valuable.

For the commitment of these leaders, and the many others cited in support of key points, the industrial arts profession must be truly grateful. Through their vision our nation's response to the demands of technology and contemporary work life, as mediated by industrial arts, will be shaped. We are indeed fortunate for their contributions on our behalf.

INDUSTRIAL ARTS TODAY:
A DYNAMIC SUBJECT WITH SIGNIFICANT RELEVANCE
TO BOTH TECHNOLOGY AND VOCATIONAL EDUCATION!

In the Education Amendments of 1976, congress recognized the significant contribution of industrial arts to vocational education by specifically naming industrial arts as an area eligible for federal funding. The law (PL 94-482) identified industrial arts in two of its sections:

> Section 120 (B) (1) (I); Authorization of Grants and Uses of Funds: "Industrial Arts Programs where such programs will assist in meeting the purpose of this act"
>
> Section 195 (15); Definitions: "The term 'Industrial Arts education programs' means those education programs (A) which pertain to the body of related subject matter, or related courses, organized for the development of understanding about all aspects of industry and technology, including learning experiences involving activities such as experimentation, designing, and construction, evaluating and using tools, machines, materials and processes and (B) which assists individuals in the making of informed and meaningful occupational choices or which prepare them for entry into advanced trade and industrial technical education programs."

This definition was also listed under Title II of PL 94-482's regulations (in Section 104.592) for implementation of the Vocational Education Act as amended. Clearly the inclusion of this definition demonstrated congressional recognition that industrial arts programs and personnel can be equal partners with other vocational subject areas in the development, implementation and evaluation of articulated, comprehensive vocational education programs; especially in the orientation and pre-specialization phases of such programs.

Industrial arts is a large and viable, i.e. technologically relevant, program currently available in most of today's public schools. Such programs involve the occupational preparation,

growth, guidance and technological development of students for our modern industrial society. Industrial arts does this through an instructional program that addresses the technical, consumer, occupational, avocational, organizational, social, historical, and cultural aspects of industry and technology by study in the clusters of energy and power, materials and processing and communication. While industrial arts fosters and builds upon general education with application oriented learning experiences in technological cluster-based laboratories, thereby developing technological literacy, its scope and sequence of courses also contribute importantly and systematically to vocational/technical and career education by providing a place for students to explore occupational clusters with industrial relevance. The latter is of particular significance to females because industrial arts is the only subject in their formative years of schooling that has the potential of reaching a large proportion of this nation's female youth with learning based on industry and technology.

Industrial arts essentially encompasses two major thrusts: one; vocational awareness, orientation and exploration activities that assist individuals in the making of informed and meaningful occupational choices and the second; a program of hands on, laboratory-based learning experiences that provide insight and skills about tools, machines, materials and processes and through these they develop the technological literacy so vitally important today. It is the effective melding of both these thrusts that has caused industrial arts to be taken by over five and one half million students a year.

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SCOPE AND SEQUENCE OF
INDUSTRIAL ARTS EDUCATION

Industrial arts curricula consist of experiences based upon nationally relevant economic/industrial clusters such as: materials and processing, communication, and energy and power power (See Figure 1). These courses provide "hands on" manipulative experiences that serve students' occupational and avocational needs in a manner that is consistent with the demands of our technological society's demands.

CONTRIBUTIONS OF
INDUSTRIAL ARTS EDUCATION

Industrial arts programs provide students with unique opportunities to:

- Develop insight and understanding about the place of industry in our society;
- Appreciate the strength of free enterprise and the American economic system;
- Discover and develop individual talents, aptitudes, interests, and potentials related to industry and technology;
- Reinforce basic communication and computation skills that are important to every student's general education;
- Develop an understanding of industrial processes and the practical application of scientific principles to industry;
- Develop basic skills in the proper use of common industrial tools, materials, and processes;
- Develop problem-solving skills and creative abilities involving industrial materials, processes, and products;
- Develop an understanding of industrial and technological career opportunities and their requirements;
- Develop those traits that will help obtain and maintain employment;
- Prepare for entrance into advanced and highly skilled secondary and post-secondary vocational programs.

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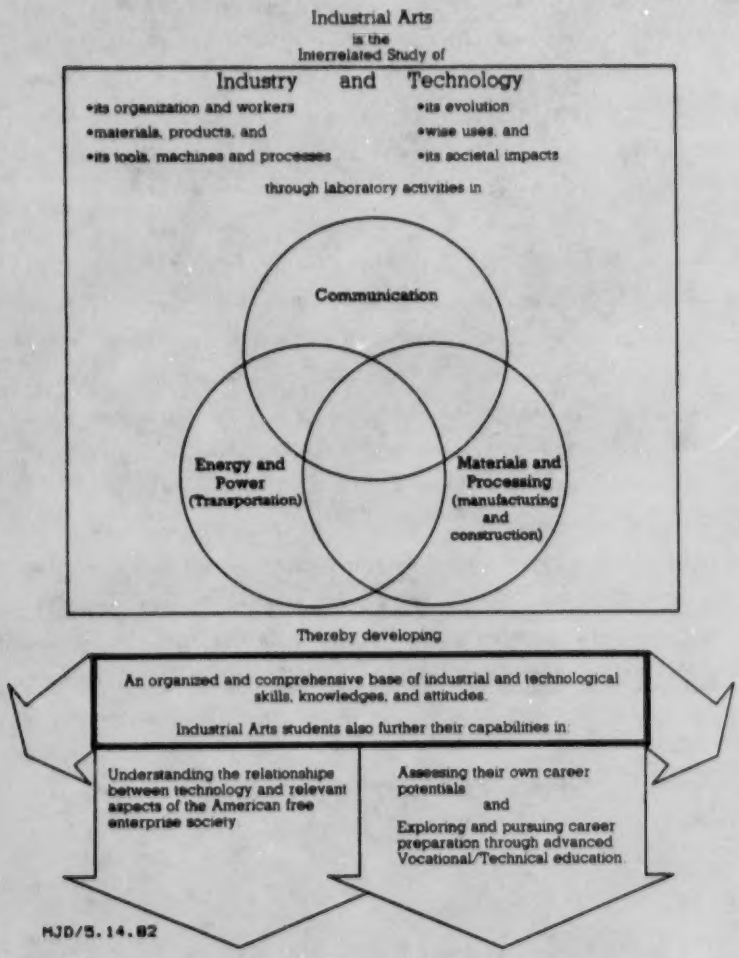
Figure 1

The Scope of Industrial Arts Education


Industrial Arts
is the
Interrelated Study of
Industry and Technology
•its organization and workers
•materials, products, and
•its tools, machines and processes
•its evolution
•wise uses, and
•its societal impacts
through laboratory activities in
Communication
Energy and Power (Transportation)
Materials and Processing (manufacturing and construction)
Thereby developing
An organized and comprehensive base of industrial and technological skills, knowledges, and attitudes.
Industrial Arts students also further their capabilities in:
Understanding the relationships between technology and relevant aspects of the American free enterprise society
Assessing their own career potentials
and
Exploring and pursuing career preparation through advanced Vocational/Technical education.
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RELATIONSHIP OF INDUSTRIAL
ARTS TO VOCATIONAL EDUCATION

In 1972, Congress recognized the importance of industrial arts and its objectives by adding industrial arts to the Amendments to the Vocational Education Act. Thus, benefits that went to vocational subjects were extended to industrial arts programs that fulfilled one or more of vocational education's objectives. The 1976 Amendments of the Vocational Education Act further specified industrial arts as a program eligible for the authorization and use of vocational funds under Title II, Part A, Subpart 2, Basic Grants. Therefore, industrial arts has a direct relationship to vocational, trades, industrial and technical education programs and federal regulations released in the Federal Register of October 3, 1977, outline the function of industrial arts within the vocational education environment and provide guidelines for establishing a vocationally approved and fundable industrial arts program. Figure 2 illustrates some of the significant contributions that a well nurtured and carefully planned industrial arts program provides to vocational education.

Unfortunately, because of past practice the move to include industrial arts in state vocational program planning and funding has been less expeditious than desired. More recently, progress has been held back due to the constriction of federal vocational education funds and the increased competition this has engendered. However, in 1981 at least 30 states were using some federal vocational funds for industrial arts programs. This

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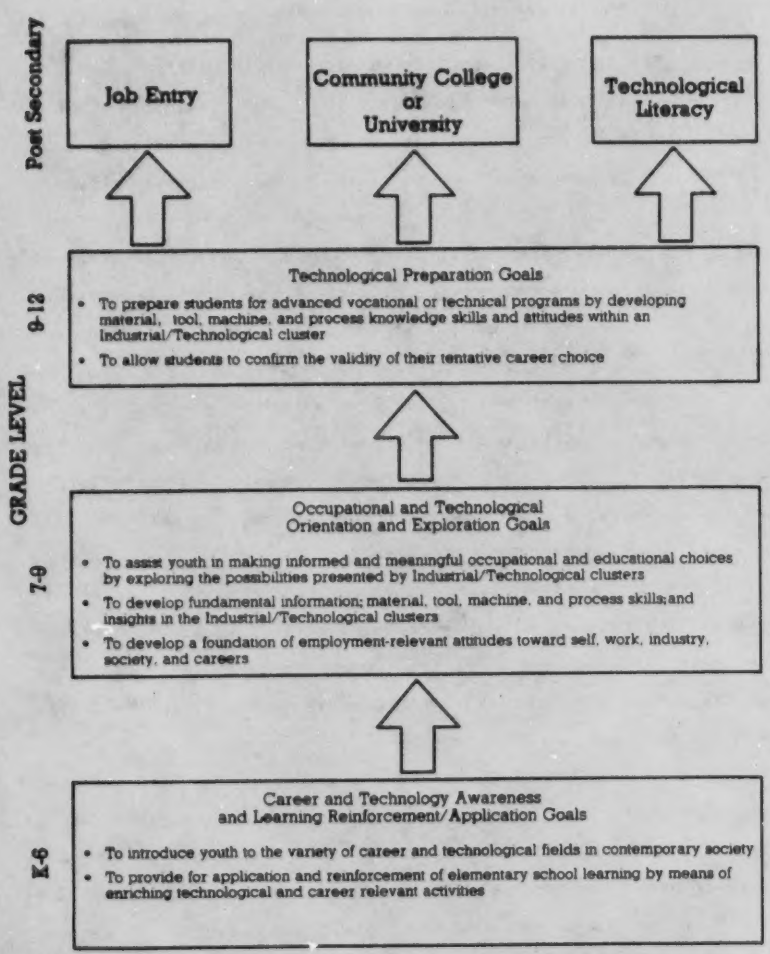
Figure 2

Vocational Contributions of the Industrial Arts Program Sequence


Post Secondary
Job Entry
Community College or University
Technological Literacy
GRADE LEVEL
9-12
Technological Preparation Goals
• To prepare students for advanced vocational or technical programs by developing material, tool, machine, and process knowledge skills and attitudes within an Industrial/Technological cluster
• To allow students to confirm the validity of their tentative career choice
7-9
Occupational and Technological Orientation and Exploration Goals
• To assist youth in making informed and meaningful occupational and educational choices by exploring the possibilities presented by Industrial/Technological clusters
• To develop fundamental information; material, tool, machine, and process skills; and insights in the Industrial/Technological clusters
• To develop a foundation of employment-relevant attitudes toward self, work, industry, society, and careers
K-6
Career and Technology Awareness and Learning Reinforcement/Application Goals
• To introduce youth to the variety of career and technological fields in contemporary society
• To provide for application and reinforcement of elementary school learning by means of enriching technological and career relevant activities

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position is still somewhat tenuous however as evidenced by 1981's 9% decrease in the number of states using federal vocational dollars for industrial arts (Sarapin, 1982).

PERTINENT DATA ABOUT INDUSTRIAL ARTS EDUCATION

Since its incorporation into the public school program almost 100 years ago, industrial arts has been considered part of general education and, as such it rarely received special funding. Yet, because of high student interest in this pertinent, relevant and motivating subject, industrial arts has grown to involve more than 56,000 teachers serving approximately 6,000,000 students annually, at least 1,683,902 of which are enrolled in programs receiving federal funding.

The enterprise of industrial arts is one that exists in every state of this nation. Recently and largely due to the Standards for Industrial Arts Programs Project, the profession has experienced a significant increase in both the quantity and quality of information available to describe it. Federal agency attention has also been directed towards industrial arts but overall the nature of their efforts is still fragmented. Recent progress in achieving new National Center for Education Statistics (NCES) industrial arts coursework classifications will prove valuable in the future.

But what of the industrial arts profession? This section will present some highlights that depict its characteristics largely in numerical terms. Unless otherwise noted, all data pertain to a period from 1979-81 and are derived from tables in this testimony's Appendix A: Statistical Supplement.

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Student Enrollment

- Overall, conservative statistics indicate that between 5,460,000 and 6,060,000 students are enrolled in industrial arts, grades 7-12 (Table 1).

- Approximately 30% of the nation's total secondary enrollment experiences industrial arts (Table 1).

- Data reported by 20 states show 688,594 students (81.3% male, 18.7% female) are enrolled in industrial arts programs that received some federal vocational education funding (Table 2).

- Industrial arts enrollment, for programs with and without federal funds, is heaviest in grades 7-10 (Table 3).

Program Purposes

- There is a high degree of national consensus on the purposes of industrial arts. Samples of principals, guidance coordinators and industrial arts chairpersons indicated the highest ranking goals to include (Table 4):

  1. Developing skill with tools and machinery
  2. Providing technical knowledge and skill
  3. Discovering and developing creative talent
  4. Developing leisure time pursuits
  5. Developing problem-solving skills
  6. Making informed occupational choices
  7. Providing prevocational experiences

- A national sampling of over 1300 industrial arts chairpersons, guidance coordinators and principals found high recognition of industrial art's contribution to both vocational and general education (Table 5).

- Over 90% of guidance coordinators reported that industrial arts has moderate or very high potential for breaking down stereotyping for females (Table 6).

Institutions

- There are approximately 20,436 secondary (6-12) schools with industrial arts programs in the USA (approximately 23% of all US public schools including elementary schools (Table 7).

- In a national survey, with 35 states reporting, 74% of secondary schools offer industrial arts (Table 8).

- There are between 2050 and 3740 secondary schools that have industrial arts programs receiving some federal vocational funds directly for industrial arts (Table 7).

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Industrial Arts Facilities

- General woods (61.5%), drafting (56.1%), metals(55.7%), and general industrial arts (49%) laboratories represented the most frequently reported general industrial arts facilities in a random sample of the nation's schools (Table 9).

- Similarly, drafting (23%), metals (22.1%), woods (13.6%), and graphic arts (10.2%) constitute the most frequently available unit (i.e., more specialized) laboratories (Table 10).

- Technology cluster-based laboratories such as construction, materials and processing, manufacturing, energy and power, exploratory technology, and American Industry, constitute only a small proportion of the currently available industrial arts facilities (Tables 9,10).

Teachers and Supervisors of Industrial Arts

- A minimum of 55,235 fully certified teachers were teaching industrial arts in 44 states during 1977-78 (Table 12). Because of partial responses and other variables, 1979-80 figures are lower, however interpolation from previous year data and reasonable estimates suggest there are about 55,000-60,000 industrial arts teachers nationwide (Table 12).

- With 37 states reporting, 1,035 industrial arts teachers with temporary, emergency or non-certification were in the classroom(Tables 11, 12).

- The majority (94.2-95.1%) of industrial arts teachers held bachelors (46.8-52.5%) and masters (42-48.3%) degrees (Table 13).

- Only a small proportion (1.5-4.7%) of industrial arts teachers in a nation sample held contracts extended beyond the normal 9-10.5 month school year (Table 14).

- The average number of state level industrial arts supervisors for those states reporting data was 1.66 persons in 1980-81. Since a total of 70 industrial arts supervisors were reported, approximation suggests that each one is responsible to supervise some 630 to 780 industrial arts teachers (Table 15).

- Four out of the 41 states responding to a national survey indicated that there was no state supervisor for industrial arts. Five states indicated that their supervisor was assigned less than full time to industrial arts (Table 15).

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Industrial Arts Courses

- There is a tremendous diversity in industrial arts courses offered throughout the U.S.A. In 1972-73, 29 different subject classifications were used to report industrial arts enrollments (Table 16, 18).

- Through the entire grade range, course titles reported as representative of industrial arts, reflected traditional programming (Table 17).

- Cluster-based courses were named less frequently, than traditional programming, as being representative of industrial arts (Table 17).

Student Organization

- The American Industrial Arts Student Association, the profession's federally approved vocational student organization, has grown to involve 21,665 students in 878 chapters in 34 states, 1981 (Table 19). This group's potential has caused it to more than double since 1974-75.

- During 1980, 2,503 industrial arts teachers/advisors were served by AIASA workshops in 17 states (Table 20).

- AIASA is the smallest of all vocational student organizations (1980-81) but it is estimated to have the largest potential for growth (Table 21).

Industrial Arts Student Characteristics

- The majority (54-60%) of guidance coordinators and industrial arts chairpersons in a national sample rated the academic abilities of industrial arts students as being "about the same" as the general school population. At the same time however, a smaller but still significant percentage (24-39%) of respondents rated industrial arts students as tending to be lower (Table 22).

- Industrial arts enrollment in comprehensive and vocational high schools has a racial/ethnic distribution of: 76.9% white, 13.3% black, and 7.6% hispanic (Table 23).

- Industrial arts enrollment in <u>comprehensive and vocational high schools</u> is 10.5% female and 89.5% male. Note that this is about <u>half</u> the 21.7% females reported enrolled in <u>all</u> of industrial arts. Clearly there are many females for whom industrial arts at the junior high school level represents a higher probability of exposure to technology and the world of work than high school industrial arts and vocational education (Table 23).

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- In a 1980-81 national sample, with 21 states responding, 40,118 handicapped and 186,199 disadvantaged students were reported served by industrial arts (Table 25).

- Of the reporting schools in a nationwide sample, 49-55% indicated they served an average of 20-21 disadvantaged students with industrial arts (Table 24).

- Random and exemplary sample schools reported serving a broad cross-section of special needs students with no classification being excluded (Table 24).

Industrial Arts Funding

- Industrial arts received $2,400,000 (federal) and $87,900,000 (non-federal) of the $4,451,200,000 non-federal and $385,500,000 federal funds expended on vocational programs (VEA Subpart 2: Basic Grant) in 1979. This amounts to 2.4% and 2.0% of the federal and non-federal totals respectively (Table 26).

- During FY81, industrial arts was included in 36 state plans for vocational education, a reduction of 14% over FY80's 42. Thirty states actually expended federal vocational education funds on industrial arts and this represented a decrease of 9% over FY80's 33 (Table 27).

- In FY80 eleven of the states responding in a national survey indicated the use of non-vocational federal funds (such as ESEA Title IV B & C) for industrial arts (Sarapin, 1982).

- A comprehensive but incompletely responded to survey indicated the following approximations for <u>amounts of federal funds spent on industrial arts by purpose</u> (Table 27).

1.	Staff development/inservice	$ 508,867
2.	Teacher education	379,150
3.	Supervision	357,620
4.	Teacher salaries	526,477
5.	Equipment grants & projects	3,914,124
6.	Curriculum projects	394,793
7.	Exemplary programs	165,200
8.	AIASA staff support	107,147
9.	Research, travel, other	62,850
	Total reported federal vocational investment in industrial arts 1980-81	6,416,228

- As reported by industrial arts department chairpersons, and with all income sources combined, only relatively small amounts are being spent annually for industrial arts equipment and supplies: equipment $1,806-$4,200 per department, supplies $2,500-$6,650 per department (table 28).

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Evaluation of Industrial Arts

- In one state where exceptionally careful followup is made of all high school students, those that did take at least one course in industrial arts were found to have a higher incidence of subsequent vocational education and apprenticeship than students with similar math, english or social science enrollment (Table 29).

- Similarly industrial arts students were found to report lower percentages of unemployment than their colleagues with general education participation, and industrial arts students were within the range exhibited by vocational students on this same measure. With respect to the rate of paid employment, industrial arts students had higher percentages than general education students and as before, they were also within the range established by occupationally specific vocational students (Table 29).

- One year after leaving high school, students taking at least one industrial arts course reported earning average wages of $4.51, the third highest of their colleagues, with agriculture-$4.67, trade and industry-$4.59, english/social science-$4.26, mathematics-$4.25, office education-$4.17, and business education-$3.92 course experience.

- A national survey of industrial arts department chairpersons identified course content (47.2%) and staffing (36.1%) as their program's greatest strengths (Table 30).

- The preceding study also identified funding (43.2%) and facilities (29.8%) as their program's greatest weaknesses (Table 30).

Industrial Arts Teacher Supply and Demand

- There exists an industrial arts teacher shortage of major proportions: 1,391 teacher vacancies were expected in 1979-80 (Table 31). Actual reported teacher vacancies have built to 1,100, with 38 states reporting in 1980-81, from 1976-77's 812 vacancies in 40 reporting states (Table 33).

- A national survey found that approximately 5,023 classes of industrial arts were not held due to a shortage of teachers. Even estimating a conservative average of 15 students per class, this would have causes 75,345 students to be denied the opportunities presented by industrial arts (Table 31).

- Consistently since 1976, industrial arts has been either the first or second ranked subject area highest in demand as indicated by national surveys of teacher placement officers (Table 32).

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- The industrial arts teacher education profession engages approximately 1,383 faculty in 139 institutions nationwide and in 1980-81 has produced 2,906 bachelor level graduates in industrial arts. Additional institutions, faculty, and graduates exist with industrial education/technology or other designations, but it is difficult to ascertain the extent to which they provide industrial arts teachers (Table 34).

- The 1980-81 industrial arts bachelors degree class is 5.3% smaller than the 1979-80 industrial arts class (Table 35).

- The 1979-80 graduating class of industrial arts teachers with bachelors degrees and teaching certification was 93% male and 7% female for the 33 states reporting gender identifiable data (Table 35).

- During 1979, 400 industrial arts teachers were laid off, presumably due to the monetary constraints faced by their school systems. This amounted to 1.7% of the total layoffs even though industrial arts teachers represented only 1.5% of the total number of employed teachers (Table 36).

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TOPIC II

THE STATUS AND IMPACT OF
VOCATIONAL FUNDING OF INDUSTRIAL ARTS

In general, there is great difficulty in attributing any specific cutbacks to be the effect of any specific funding recission. In essence, states are using a variety of sources to secure an overall amount of money to spend on vocational education. Any shortfalls in this income, regardless of source cause a ripple effect and general budget constrictions in all areas. The proportions, however, i.e., who gets cut? and how much? are at least influenced by the:

- clout of each area's advocates
- predisposition of administrators making the decisions
- precedents and track records
- the condition and reputation of each area

Furthermore, in addition to the reduction of federal support for vocational education, there are other forces seriously eroding the fiscal viability of industrial arts and vocational education that, among others, include:

- state revenue shortfalls
- inflationary escalations in the cost of materials, supplies, and equipment
- costs of deferred maintenance and safety upgrading of industrial arts facilities and equipment
- expenses necessitated by the advance of technology (i.e., new equipment to properly reflect technology)

Industrial arts is experiencing a weakening of its capacity to assist individuals in making informed and meaningful occupational choices. As previously cited, it is clear in the

federal law that industrial arts education shall maintain its unique purposes, objectives and identity while contributing to Vocational Education. Unfortunately, the current policies in many states do not allow industrial arts educators to take advantage of the intent of the 1976 Vocational Education Amendments. Further decreases in will accomplishment of the congressional intent for industrial arts in vocational education.

In some states for example, restrictive interpretations of the Act have in effect eliminated industrial arts programs from the slate of fundable activities. The industrial arts profession does not consider such policies to be within the spirit or intent of the Act. Therefore, we urge a restating of the policies and procedures for funding industrial arts programs under Title IX, PL 94-482, Section 104.592 or under equivalent sections of any future vocational education legislation. The procedures now implemented by some states are not consistent with the original intent of the law and Hence they have denied many youngsters the opportunity for a better education.

The industrial arts delivery system has been weakened by the reduced levels of federal investment in vocational education. Additional fiscal retrenchment has the potential for devastating industrial arts. Consider the fact that over 98% of all industrial arts programs are offered at the secondary level. Currently, 27 state or territorial industrial arts supervisors report that their state or territory has a master plan for the scope and sequence of industrial arts as a part of the state vocational plan. These data are of particular importance since

industrial arts programs are among the largest vocational education programs. 1,683,902 industrial arts students in programs receiving federal funding (Wulfsberg, 1980). He also reported that industrial arts had one of the largest increases in enrollment pattern of any subject area reported (12.8%). These enrollment figures are significant!

Further cuts in funding would drastically decrease the already stressed effectiveness of the industrial arts delivery system by: reducing student organization leadership, retarding the updating of facilities and equipment, eliminating time for coordination with guidance and counseling personnel, supporting fewer leadership workshops thereby weakening industrial arts--vocational education articulation as well as decreasing the profession's capacity to accomodate technological changes necessary to maintain relevance to the world of work. Most importantly also, the cuts have already hurt plans for adapting the industrial arts standards that have been developed as a result of previous federal vocational support.

Overall Findings

Based on Sarapin's (1981, 1982) national surveys of the status of federal vocational funding for industrial arts and on a personally conducted telephone survey of 21 states industrial arts supervisors, some effects of the federal cutbacks can be identified with a high degree of certainty.

- States expending federal vocational funds for industrial arts numbered 33 in 1980 and 30 in 1981, a 9% decrease.

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- Only 23 states expended state vocational funds for industrial arts in 1981, an 18% decrease compared to 1980's 34.

- There was a general tendency to continue program support and maintenance in an as unchanged a manner as possible.

- The majority of reductions occurred in discretionary support services.

Reductions in leadership and supervision

The industrial arts profession is currently suffering from a lack of leadership at all supervisory levels. In general states lack the necessary numbers of supervisory personnel to provide even minimal support beyond mere compliance activities. In addition to the insufficient number of supervisors to work with large numbers of industrial arts teachers, inconsistent certification requirements and a lack of training have caused the quality of supervision to be reduced. More specifically however, note the survey findings that:

- Nine supervisors commented on the difficulties of exercising supervisory and leadership responsibilities in the face of travel budget cuts that range from total to moderate. Many respondents also referred to the compounding problem caused by tremendously increased travel costs and their frozen reimbursement rates

- Of 21 surveyed states, 10 states reported a reduction of 13 state level supervisory positions. Given the marginal nature of industrial arts supervisor staffing levels, this erosion has grave implications for the future quality of the nation's industrial arts programs (Table 15).

Reductions in program support service

When asked what reductions in support services occurred due to the recent budget recissions, the 21 surveyed states reported:

- 9 instances of reduced research activity.

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- 7 state respondents specifically pointed out serious reductions in their inservice and personnel development activities.
- 7 instances of curtailed curriculum development.
- 5 states specifically identified the difficulty in implementing and/or demonstrating desirable changes/innovations along with the attendant dissemination/communication necessary to support such activity.

Reductions in School Industrial Arts Programs

- This data proved to be most difficult to identify, in any substantial form, although the problem is one greatly feared by many in the industrial arts profession.
- A personal ultra-conservative estimate would be that a minimum of 250 schools have discontinued industrial arts 1980-81. The NCES reports 400 industrial arts teacher layoffs (Table 36).
- Additionally, there are many existing positions, conservatively 1,100, that remain unfilled (Table 31).
- Furthermore, because of the obvious relevance of technology to our future, some schools are seeking to expand their range of industrial arts offerings but due to a lack of teachers, they cannot.

Reductions in Quality of Existing Industrial Arts Programs

Overall, since the level (quantity) of state and local leadership has been reduced significantly due to the fiscal problems, the industrial arts profession is faced with a serious leadership problem -- at least in supervising the actual practice of the profession in our nation's industrial arts laboratories. With such a reduction:

- Where is the impetus for change to come from?
- What mechanisms exist for accountability?
- What communication links exist between programs?
- To whom can the industrial arts teacher and/or his/her principal turn to for subject specific expertise?

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The problem of quality instruction has components of instructor quality and quantity. Industrial arts teacher quality has already been discussed in terms of his/her capacity for change as necessitated by industry's rapidly advancing technology. But the quantity of industrial arts teachers is also a significant factor that continues to erode industrial arts' capacity to build in students the vital foundation for success in subsequent vocational education pursuits. Note that 1,178 vacant industrial arts teaching positions in 38 states were reported in 1979-80 as compared to the 1,077 vacancies in 34 states reported in 1978-79. The number of vacant positions has fluctuated in several states, but overall the number of vacancies has increased. Further compounding the teacher supply problem is the fact that the number of males earning bachelor degrees in industrial arts appears to be decreasing. The small increase in number of females earning bachelor degrees in industrial arts, as reported in 1979-80 has not been enough to counteract the decrease. The major problem is one of attracting more industrial arts education majors interested in teaching to undergraduate industrial arts teacher education programs. In addition to the acute need to attract and train industrial arts majors in colleges and universities, resources must also be allocated to assure that more industrial arts teacher graduates actually enter and remain in the teaching profession.

School program quality is slowly being eroded by the tight money/time syndrome of increased turnover rates and scarcity of supply. Consequently the remaining industrial arts teachers are

being asked to do more with less. Class sizes are increasing. Facilities and equipment are getting older. Teachers are being asked to use their contractually secured "work" periods to provide industrial arts classes. Burnout is all too common.

- The reduced number of inservice opportunities, mainly engendered by federal cuts, as well as the concommitant reduction in teacher support funding for such participation has held, and will increasingly in the future, hold back the profession's ability to change technologically and professionally. As a result there exists a serious practice-theory gap that threatens the relevance of industrial arts.

- Both equipment and supply budgets have been reduced or at least frozen in the face of relentless inflation. The lack of investment is observable in table 28. How can technological relevance be maintained with annual industrial arts budgets that range from $1806-4203? Costs have been transferred to students.

    - Equipment is becoming a more important qualitative factor as technology continues to accelerate its advance each day. There exists a desperate need for a large-scale infusion of state-of-the-art equipment into the nation's industrial arts laboratories.

    - Maintenance and safety upgrading of facilities represent a concurrent need, particularly since many of these costs have been deferred for some time.

- Implementation of desirable products and developments such as the highly acclaimed national standards for industrial arts has been significantly jeopardized.

- Participation in AIASA Activities have been curtailed due to travel restriction, teacher work load increases as dedicated professionals attempt to compensate for shortages and reductions in numbers of extended contracts.

Other Effects

- Reduction of the industrial arts profession's capacity to change as evidenced by:

    - beleaguered teacher education institutions

    - reduced number of supervisors

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- less support for inservice and developmental activities

- Increased competition for school funds within each system/building. Once vocational education dollars get to a school they may not be spent on vocational education.

- Reduction of industrial art's ability to serve as "feeder" to vocational education because of the smaller number of classes offered as well as the lack of program support that incorporated such activity within the funding criteria. Simply said, "money buys change, how much change do you want?"

- Reduction in perceived worth of industrial arts due to federal government's withdrawal. State and local administrators have a tendency to follow suit.

- Cost shifting to other categories of available budgets. This has the undesirable effect of diluting the achievement of the purposes intended for the other funding source.

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TOPIC III

ANALYSIS OF THE IMPLICATIONS OF
THE VOCATIONAL AND ADULT EDUCATION CONSOLIDATION ACT

Adequacy of Proposed Funding Levels

Given the needs of the nation for a skilled, technologically literate workforce, and the ensuing needs of the industrial arts profession together with those of its colleagues in the comprehensive vocational education delivery system, only one conclusion is possible. S. 2325 simply does not propose to authorize enough money to address the important goals ascribed to it. Note Dr. Henry David's conclusions in the congressionally mandated Vocational Education Study (NIE, 1981). In referring to the Vocational Education Act, as subsequently amended, he indicated that it represented "an attempt to do too much with too little." Now, S. 2325 proposes to do even more with even less. Is this a blueprint for success?

Level of overall need. It is estimated that nationally vocational education would require 1.5 billion dollars to properly address its goals in the intense manner necessary to meet national imperatives with maximum effect and quality.

Level of industrial arts' needs. Similarly well implemented, the industrial arts component alone would require 300,000,000 -- an amount commensurate with the size of industrial arts in relation to the overall system of vocational education. Configured for maximum impact, this investment would be distributed among:

- Personnel and leadership development and support (35 million)

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- Program and equipment support for increased technological relevance ($50 million)
- Special targeted projects and programs with national significance in the industrial arts arena ($20 million)

A Blueprint for Problems

The proposed bill jeopardizes the necessary ongoing federal presence in vocational education. Since a life of only two years is proposed, if enacted the bill would send a signal to states indicating the lack of federal commitment to vocational education and of the government's bankruptcy of belief in the ability of vocational education to contribute significantly to the solution of the national problems of: training enough human resources to meet defense and industrial needs, and of meeting the needs of its citizens for effective occupational choice, capacity and technological literacy.

The bill radically changes the distribution pattern of funds once they reach a state.

- Administrative costs are reduced to 4% (from 10%) at a time when the industrial arts profession's most challenging problem is leadership, at state and national supervisory positions.
- State personnel will require inservice training (Hansen, 1981) in order to enable them to meet all the challenges this bill proposes to transfer to the states. These include:
  - State level educational prioritizing
  - Policy development on an increased basis
  - State program planning
  - Evaluation and performance auditing
- Programs of national significance would receive 5% of the appropriation, a sum which could amount to a five-fold increase over current levels. Certainly this could effect a tremendous strengthening of the profession's personnel and curriculum development activity and of its research -- but the allocation of such increases is not clear. To make effective use of these increased monies, it will be necessary to also

decentralize the profession's research and development efforts and to establish some guidelines for the proportions allocated to curriculum development and to research.

- The bill engenders a confusion of purposes. For example, adult education encompasses more than just vocational education, so why incorporate it in a vocational education bill? Nor is the bill broad enough to encompass all major human resource development programs.

  Another example of the confusion of purposes is found in Part II, Section II (6) (9) where prevocational guidance, industrial arts, and consumer and homemaking are proposed in a manner that could permit substitution of any one of these programs for all the others. Each program named is important in terms of its contributions to its clients and hence legislation should call for their availability in parallel freestanding form. No one path is appropriate for all youth in this diverse nation!

Mechanically the legislation would require some changes to insure effective state level vocational programming. We recommend:

- Requiring that the proposed use report (i.e., formerly the state plan) identify how funds are equitably distributed among all service areas in the comprehensive vocational education delivery system.

- Inclusion of a definition for industrial arts as provided in PL 94-482 as subsequently amended.

In conclusion on the topic of the Vocational and Adult Education Consolidation bill, note our perception that the bill, while it is undoubtedly well intentioned, is founded on a set of premises that are inadequate and in some cases simply wrong. Just note for example the administration's claim that the bill will reduce federal administrative burden/paperwork, and implicitly therefore, costs. What actually would occur is that a massive shift of responsibility and work would be transferred to the states. Naturally the costs would also have to be assumed by

the states. Essentially the funding and accountability mechanisms now centralized would have to be replicated in each state. Because of the newness of the process as well as its technical requirements, more effort than ever before will need to be invested -- a situation that is counterproductive to the intent behind the bill. Any economies of scale will be lost and the capability of focussing nationwide effort on any objective will be severely impaired -- and all at a time when fiscal conservation and the efficiency and effectiveness of government is of vital concern!

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TOPIC IV

CONSIDERATIONS AND RECOMMENDATIONS

School failures, unemployment, and the isolation of youth from positive engagement with the rest of our society have affected our nation's productivity. Industrial arts, as the basic general element of vocational education, provides most students with their first opportunity to develop the basic skills they need for the world of work. Laboratory experiences in industrial arts involve work with industrial tools, materials, and processes. Public school industrial arts programs motivate youth to stay in school longer and enter the labor market at a later age, better prepared for the world of work. For school drop-outs, industrial arts programs provide fundamental tool skills and knowledge, and ease their eventual return to the study of academic or advanced vocational subjects.

The current U.S. economic situation demands greater work productivity and a revitalization of our industries. Industrial arts programs teach students about working in an industrial organization; understanding themselves and others; motivation for work; interpersonal relationships; on-the-job communications; using creativity on the job; authority and responsibility; problem solving; coping with organizational conflict and change; leadership; and adapting and planning for the future. Our country's youth must learn to cope with life's economic realities and make meaningful contributions in a goods-producing/service-oriented society.

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Industrial arts promotes vocational and technological exploration. It allows for the creation of self and societal understandings. In addition, industrial arts leads to the development of skills that cut across many different areas of human endeavor including gainful employment! Such functional and application skills include learning to learn; coping with change; developing technological, economic, and cultural literacy; promoting wise consumer behavior; providing occupational orientation and exploration; practice with thought processes involving decision-making and problem-solving; dealing with authority and responsibility; and developing values that will serve as a basis for making meaningful contributions in an increasingly sophisticated technological society.

Vocational education has a major responsibility for producing individuals with an understanding and ability to function effectively in our technological society. Industrial arts programs have had a long tradition of supporting vocational education in meeting this crucial responsibility.

Recommendations

There are six groups of recommendations that, in our view, need to be considered in establishing legislation pertaining to comprehensive vocational education and to the role of industrial arts as an essential component of such a system. Specifically, and based upon the preceding testimony, the industrial arts profession seeks consideration of its recommendations, listed in order of group priority, in the areas of:

- legislative provision for industrial arts
- leadership and personnel development

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- teacher shortage and teacher education
- industrial arts program support (in the schools)
- program improvement/support services
- data collection and analysis

Recommendation Area #1: Legislative Provision for Industrial Arts

We recommend:

1. Retention of industrial arts' identity and specific wording that defines industrial arts (as per PL 94-482) and adding new wording that describes industrial arts' eligibility for vocational funding on the same basis and in the same manner as all service areas. Industrial arts needs to continue be eligible for both programmatic and support service funding.
2. That designation of industrial arts' role as an essential component of a state's comprehensive vocational education delivery system be called for in each state's program use report (state plan).
3. Specification of an essential floor funding amount to insure the capacity of industrial arts as an exploratory/prevocational service to provide "front end" services, treatment and preparation of vocational education's inputs is enhanced in each state.
4. Changing the specific wording of the proposed bill's (S. 2325, Vocational and Adult Education Consolidation Act of 1982) Part II, Section 125 (6)(9) to read:

   (9) Providing programs of consumer and home economics education; industrial arts education; and prevocational guidance.

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5. A provision be added to insure incorporation of: teacher education activities (in targeted areas to address shortages and/or pressing technological demands); program support (equipment and renovation for technological purposes); leadership and personnel development; service area specific state leadership; and curriculum development and implementation, in the list of activities eligible for funding. Furthermore, it should be clear that industrial arts activities in the listed areas, and were they contribute to the goals of vocational education in its comprehensive sense, be eligible for funding.

6. That future vocational legislation provide the federal agency responsible for vocational education with a clear charge to implement a major public and private sector information campaign to generate national momentum towards recognition of the centrality of technological literacy to our nation's survival.

Recommendation Area #2: Leadership and Personnel Development

We recommend, at the national level:

1. That the legislation specifically provide, for each program defined within it, for full time and service area specific program leadership within the federal agency responsible for vocational education and that for Industrial Arts, because of its large enrollment, at least two such people be designated.

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2. That fifteen targeted-purpose industrial arts teacher training institutes akin to the successful NDEA institutes be instituted on an annual basis.

We recommend at the state level:

1. That the legislation, or its regulations, call for specific full-time leadership, in numbers commensurate with the size of the area's instructional staff and student involvement, in each service area.
2. That each service area have a full-time supervisor designated to provide leadership and support to youth participating in that area's vocational student organization(s).
3. That provision be made to support a leadership development and planning cadre in each service area.
4. That inservice workshops be provided in a manner to make it possible for all teachers to participate, without incurring any additional financial burden, in state cadre-planned inservice programs. The cadre's initial charge would be to plan for state modification/adoption and implementation ofthe national standards for industrial arts and through them address the most urgent concerns in their state.

Recommendation Area #3: Teacher Shortages and Teacher Education Support

We recommend at the national level:

1. That a program of fellowships, grants, and national student loans be instituted to encourage 1,000 new

persons to enter the industrial arts teaching profession over a three-year period.

2. That an Industrial Technology Exchange Teacher Corps be established and supported to provide for an ongoing exchange between industrial arts education and business and industry.

3. That industrial arts teacher education institutions be declared eligible for vocational equipment fund support in a manner comparable to that of the other vocational service areas.

We recommend, at the state level:

1. That each state experiencing documentable industrial arts teacher shortages be empowered to conduct short-term Emergency Industrial Arts Teacher Training Programs supported by federal vocational funds and that these be offered to potential industrial arts teachers at no cost other than a $1,000 obligation. This obligation would be cancellable upon documentation of one year of Industrial Arts teaching in the state offering the program. This program should be designed to effectively retrain teachers with certification in oversupplied areas, to bring to full certification industrial arts instructors substandard credentials, and to train industry derived personnel for instructional responsibilities.

2. That state agencies for vocational education work cooperatively with state agencies for higher education and, in conjunction with the state's industrial arts

cadre, evolve a plan for the inservice support of practicing industrial arts professionals.

3. That through the immediately preceding state level provisions, local strategies be developed to provide for the inservice education needs of industrial arts practitioners, including those less than fully certified (temporary, emergency, non-certified). Plans for this inservice are to involve the state industrial arts cadre in a significant role.

4. That teacher education facility development be identified as reimbursable (partially) when technology oriented cluster laboratories are being established.

5. The designation of teacher trainee recruiting activities as eligible for reimbursement when targeted on fields identified as being in under supply and that this include the promotion of Industrial Arts teaching as a viable career for females and minorities.

Recommendation Area #4: Industrial Arts Program Support

We recommend:

1. The development of statewide inventories of industrial arts facilities, classified in a manner compatible with federal data collection procedures, and their use to design a phased 5-year plan for systematic updating and facility renovation to insure technological relevance, safety compliance, and ease of accessibility.

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2. That a provision be incorporated so that where industrial arts demonstrably contributes to one or more of the goals for vocational education, there is ongoing fiscal support for systematic technological upgrading of industrial arts program equipment, and that this mechanism incorporates a with a priority for cluster-based laboratories.

3. Members of this hearing committee encourage representatives of other House committees, particularly those involved with industry, finance and tax legislation, to institute provisions that provide high technology producers and consumers with incentive for contributing, loaning or otherwise conveniently providing access to state-of-the-art technology hardware to schools offering industrial arts and vocational education. Consideration might even be given to the possiblity of requiring industry to automatically provide new hardware to schools as a matter of public responsibility.

4. Consideration of a pilot program to incorporate "taxwork". The latter term meaning the possibility of an individual offsetting state and local tax liability by voluntary labor at an approved public project (e.g. infusing state-of-the-art technology and world-of-work skills into the experiences of students enrolled in industrial arts and vocational education.

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5. Mechanisms that stimulate information and technology networking in a manner that links the industrial arts or vocational education instructor to the never-ending stream of technological developments in his/her particular field be provided in future legislation.
6. With the increased investment in industrial arts' technology-based laboratories, that consideration be given to mechanism that provide incentive for the 12-month utilization of industrial arts facilities.

Recommendation Area #3: Research and Curriculum Development

We recommend:

1. That the National Center for Research in Vocational Education be funded to establish a national clearinghouse and policy center on technology education.
2. That exemplary program provisions be reintroduced into future vocational legislation in order to capitalize on the use of programs of demonstrated effectiveness to encourage change in the practice of industrial arts. Nominations for exemplary status need to be possible from the field, from state industrial arts cadre's and from state and national program supervisors.
3. That curriculum development monies be specifically allocated to the development of technology cluster-based activities suitable for nationwide infusion in a variety of industrial arts programs. Another example

of curriculum development in areas of national significance includes energy education through industrial arts and vocational education.

4. That a media development program be initiated to generate classroom/laboratory programs that fuse realistic depictions of industry's technological needs and developments with activities that address the goals of industrial arts and vocational education.

5. That a research project be instituted, under provisions similar to the projects of national significance system, to investigate and document the relationships between technological literacy and vocational achievement. Validation of technological literacy's essential components, their measurement and enhancement by means of updated industrial arts and vocational education programs will need to be the core of this thrust.

Recommendation Area #6: Data Collection

We recommend:

1. That the National Center for Education Statistics, together with its cooperating state agencies, immediately implement procedures that will provide, on a minimum of a biennial basis, a valid estimate of the total number of pupils, by state, grade (7-12) level, and sex, that are enrolled in the industrial arts programs of our nation's public schools.

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2. That support be granted the National Center for Education Statistics to permit clear presentation of industrial arts data and the reconciling of disparate reporting bases for industrial arts.

3. That state vocational data collection efforts encompass all industrial arts enrollment (independent of the incidence of federal funding) and vocational student organization (including the American Industrial Arts Students Association) statistics of relevance to program planning and accountability.

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Appendix A

Statistical Supplement Describing The Industrial Arts Enterprise in The USA

May 14, 1982

Table 1. Overall Student Enrollment in Industrial Arts

Number of students enrolled in industrial arts programs and their proportion of total enrollment, grades 7-12, U.S., public secondary schools: 1948-49, 1960-61, 1972-73, Fall 1979.

Year	Total U.S. Secondary (7-12) Enrollment (1)	Industrial Arts Enrollment (1)	Percent of Total
1948-49	4,907,833	1,762,242	23.5%
1960-61	11,732,742	3,361,699	28.7%
1972-73	18,577,234	5,726,138	30.8%
Fall 1979	19,549,000 (a)	4,060,000 (b) 5,460,000 (2) (c)	31.0% 27.9%

Notes:

a. Total enrollment by grade in public, elementary, and secondary schools: Fall 1979: from Digest of Education Statistics: 1981, Table 38, p. 40.

Grade	Number (in thousands)
7th	3,128,000
8th	3,148,000
9th	3,516,000
10th	3,527,000
11th	3,241,000
12th	2,969,000
Total	19,549,000

b. Estimate of enrollment in industrial arts in 1979 based on trends 1948-73. Application of this percentage to 7-12 enrollment, total 1979 yields an estimate of 4,060,000 students in industrial arts.

c. Detailed estimation procedures are described on following page.

Sources:

1. U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 1981, Table 43, p. 52.

2. Report of industrial arts state and territorial survey data for 1980-81, March 1982.

Table 1, continued

ESTIMATING PROCEDURE YIELDING TOTAL UNITED STATES
INDUSTRIAL ARTS ELEMENTARY AND SECONDARY
ENROLLMENT

First

Overall elementary and secondary enrollment (1979-80) for states reporting total Industrial Arts enrollments were calculated using Table 45, p. 54, Digest of Education Statistics 1981. This yielded 29,385,681.

Second

The percentage Industrial Arts enrollments (from Table 2) represented of the reporting states' total elementary and secondary enrollment, was determined to be 13.12%.

Third

The total elementary and secondary enrollment (from Table 45, p. 54, Digest of Education Statistics 1981) for states not reporting Industrial Arts enrollment, in Table 2, was calculated to be 12,218,577.

Fourth

Industrial Arts enrollment in the non-reporting states was estimated by multiplying the participation rate (for reporting states) of 13.12% times the derived elementary and secondary enrollment (for non-reporting states) of 12,218,577. This yielded an estimate of their Industrial Arts enrollment of 1,603,633.

Fifth

Therefore, the U.S. total elementary and secondary Industrial Arts enrollment is estimated conservatively to be 3,856,738 + 1,603,633 = 5,460,371.

Table 2. Industrial Arts Enrollment by Sex, 1979-1980

State	Reported Funded and Non-Funded Enrollment			Reported Funded Enrollment		
	Male	Female	Total	Male	Female	Total
Alabama	4,648	790	5,438			
California	409,728	77,689	487,417	139,199	33,015	172,214
Dist. of Col.			125,128(E)			
Florida						114,187(E)
Georgia	61,749	17,296	79,045			
Hawaii			3,679(E)	3,379	285	3,664
Idaho	19,212	3,972	23,184	1,283	255	1,538
Indiana			210,518(E)			
Kentucky			33,941(E)			15,974(E)
Louisiana	27,130	3,821	30,951	25,731	2,193	27,924
Maine			28,000(E)			
Maryland	73,491	19,817	93,308	154	30	184
Mass.	70,467	15,059	85,466			
Minnesota	203,000	57,000	260,000			
Mississippi	19,665	4,642	24,267	19,665	4,642	24,267
Missouri			132,599(E)			10,300(E)
Montana			6,000	1,330	87	1,437
Nevada			9,900(E)			
New Hamp.	12,542	1,159	13,701			
New Jersey	306,576	121,834	428,410	6,200	6,200	12,400
New Mexico						10,000(E)
New York			400,000(E)			
North Carol.	18,318	3,431	21,749			
North Dakota				3,095	670	3,765
Ohio	297,861	77,200	375,061			
Oregon	54,860	11,861	66,721			273(E)
Pennsylvania	319,135	120,196	439,231	4,090	2,064	6,154
Puerto Rico	48,838	4,684	53,522	48,838	4,684	53,522
South Carolina			9,576(E)			
Tennessee	39,150	24,100	63,250	38,000	22,000	60,000
Texas			190,000(E)	66,877	15,146	82,023
Utah	45,700	10,300	56,000	8,913	1,450	10,363
Vermont			20,537(E)			
Virgin Islands			1,443(E)			1,443(E)
Virginia	94,799	13,728	108,437	48,004	6,958	54,962
Wyoming	10,154	1,627	11,781			
TOTALS	2,134,713	992,226	3,916,266(A)	434,718	99,699	688,596(B)
States Responding #	20	20	33	24	24	33
% of Total Identifiable by gender	78.3%	21.7%	(A)	81.3%	18.7%	(B)

Funded industrial arts represents 17.6% of 1979-80 reported total industrial arts enrollment

Notes: On following page

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Notes: Table 2, continued

a. Identifiable total by gender, funded and unfunded: 2,728,939
b. Identifiable total by gender, funded: 534,417 (434,718+99,699)
c. Indicates total with non-identifiable gender proportions
d. The 21.7% female enrollment in all reported industrial arts programs (where data by gender is available), represents more than twice the 10.6% reported by Rolf K. Halfaberg, in his September 17 testimony (see p. 44 in Current Issues in Vocational Education, 1980). Note that his data referred only to industrial arts enrollments in institutions offering five or more vocational programs.

Source:

Report of industrial arts state and territorial survey data for 1980-81. March 1982. Tables 4 and 5, p. 11 and 12.

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Table 3. Industrial Arts Enrollment Patterns by Grade Level, Federally Funded and Non Federally Funded 3

	1977-1978 1				1978-1979 2		
	I.A.		I.A.		I.A.		
Grade	Enrollment Non Fed Funds	No. of States	Enrollment Fed Funds	No. of States	Enrollment Fed Funds		No. of States
K-5	C				C	0	3
					B	2	4
					F	0	3
6	C 108,810	12	C 2,650	4	C	0	3
					B	0	2
					F	0	2
7	C 431,379	19	C 36,763	8	C	34,713	4
					B	4,250	3
					F	842	3
8	C 409,731	19	C 72,700	9	C	34,943	4
					B	3,529	3
					F	571	3
9	C 344,190	18	C 83,150	12	C	25,386	7
					B	10,316	5
					F	1,315	5
10	C 385,993	18	C 57,287	10	C	22,679	7
					B	5,964	5
					F	845	5
11	C 259,913	16	C 40,654	11	C	17,476	6
					B	3,319	4
					F	466	4
12	C 228,394	16	C 39,894	10	C	14,650	6
					B	2,590	4
					F	388	4
Sum of grade enrollment	C 2,188,692		C 353,194		C	150,055	
					B	29,978	
					F	4,427	

Notes:

a. Caution in interpreting. The incomplete data received do not provide an accurate indication of how many industrial arts students were actually enrolled in the reported years.

b. C = combined male and female enrollment report not separately identifiable by gender. B = reported male enrollment. F = reported female enrollment.

Sources:

1. Standards for Industrial Arts Programs Project: Report of Survey Data. September 1980, p. 40

2. Report of Industrial Arts State and Territorial Survey Data for 1980-81. March 1982, Table 16, p. 30.

NJB/S.14/82

Table 4. The Purposes of Industrial Arts: Perceptions of Principals, Guidance Coordinators, and Industrial Arts Department Chairpersons in Random and Exemplary Samples

	Rank order of Purposes of Industrial Arts													
	By Current Degree of Emphasis						By Ideal Degree of Emphasis							
	Random Sample			Exemplary Sample			Random Sample			Exemplary Sample			Comparison to Schmitt & Polley①	
Purposes of Industrial Arts	Respondents			Respondents			Respondents			Respondents				
	C	GC	P	C	GC	P	C	GC	P	C	GC	P	T	P
Skill in tools and machines	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Provide technical knowledge and skill	2	2	2	2	2	2	4	2	2	3	3	3	4	4
Discover and develop creative talent	3	3	3	3	3	3	3	3	3	5	2	2	3	2
Develop worthy leisure time interests	4	5	4	5	7	5	2	5	4	2	6	6	7	3
Develop problem solving skills	5	6	7	4	5	8	5	6	5	7	4	5	2	5
Make informed educational-occupational choices	7	8	5	6	9	4	9	4	6	8	5	4	na	na
Provide provocational experiences	9	4	6	9	5	6	7	7	8	4	7	7	9	6
Understand technical culture	6	9	9	7	8	7	6	11	9	6	11	9	5	7
Provide vocational training	10	7	8	11	4	9	10	9	7	11	9	8	10	8

continued,

Table 4. The Purposes of Industrial Arts: Perceptions of Principals, Guidance Coordinators, continued and Industrial Arts Department Chairpersons in Random and Exemplary Samples

	Rank order of Purposes of Industrial Arts											
	By Current Degree of Emphasis						By Ideal Degree of Emphasis				Comparison to Schutt & Polley	
	Random Sample			Exemplary Sample			Random Sample			Exemplary Sample		
Purposes of Industrial Arts	Respondents			Respondents			Respondents			Respondents	Respondents	
	IC	IGC	IP	EC	EGC	EP	IC	IGC	IP	EC	EGC	EP	T	P
Develop consumer knowledge and appreciations	8	11	10	8	11	10	9	8	10	12	8	10	6	9
Develop an understanding of the nature and characteristics of technology	11	12	11	10	10	11	11	10	11	10	10	12	44	44
Understand the application of science and mathematics	12	10	12	12	12	12	12	12	12	9	12	11	8	10
N	719			191			719			191				

I C = Industrial Arts chairperson; GC = Guidance coordinator; P = Principal; T = Teacher.

Source:

1, 2. Standards for Industrial Arts Program Project: Report of Survey Data, September 1980, Tables 4 and 5, p. 23, p. 28.

RJB/3.14/82

Table 5. Relationship Between Industrial Arts and Other Programs as Perceived by Principals, Guidance Coordinators and Industrial Arts Chairpersons. Respondents were asked:

In your opinion, industrial arts is most nearly allied with which one of the following categories?

	Percent of Individuals Responding (Adjusted Frequency)					
	Principals		Guidance		Chairpersons	
CATEGORY	Random Sample	Exemplary Sample	Random Sample	Exemplary Sample	Random Sample	Exemplary Sample
General Education	55.4	49.4	42.1	41.2	53.6	50.3
College Preparatory	0.0	0.0	0.0	0.0	0.2	0.0
Prep. for voc-tech ed	44.6	50.6	39.8	36.5	36.0	38.6
Voc-tech ed	0.0	0.0	18.2	22.4	10.2	10.5
TOTALS	100.0	100.0	100.0	100.0	100.0	100.0
N Responding	374	136	661	170	645	172

Note: Adjusted frequency is based on percentage of respondents only, missing cases deleted.

Source: Standards for Industrial Arts Program Project: Report of Survey Data. September 1980, pp. 32, 33, 34.

KJH/5.14/82

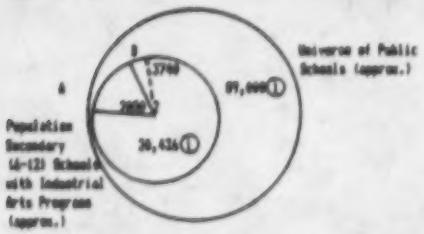
Table 4. Opinion of Guidance Coordinators on the Potential of Industrial Arts for Breaking Down Stereotyping Roles for Females

"How great a potential do you believe industrial arts has for breaking down stereotyping roles for females?"

DEGREE OF IA POTENTIAL	RANDOM SAMPLE ABS FREQ	REL FREQ (%)	ADJ FREQ (%)	EXEMPLARY SAMPLE ABS FREQ (%)	REL FREQ (%)	ADJ FREQ (%)
None	2	0.3	0.3	1	0.5	0.6
Little	57	7.9	8.5	14	7.3	8.1
Moderate	321	44.6	47.9	72	37.7	41.9
Very Much	290	40.3	43.3	85	44.5	49.4
Missing	49	6.8	-	19	9.9	-
TOTALS	719	100.0	100.0	191	100.0	100.0

Source: Standards for Industrial Programs Project: Report of Survey Data. September 1980. Table 39, p. 74.

Table 7. Institutions Offering Industrial Arts at Secondary Level



A. 2930 total schools receiving federal vocational dollars for industrial arts, conservative data

B. 2740 total maximum number of schools (6-12) receiving federal vocational dollars for industrial arts, upper limit

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Note:

Assuming participation rate (18.33) in Table 8 applies to non-responding states, the maximum likely number of secondary schools (6-12) receiving federal funding for industrial arts in all of the United States would be (18.33 x 30,436) = 2740.

Sources:

1. Standards for Industrial Arts Education Program Project: Report of Survey Data, September 1980, p. 11.

2. Report of Industrial Arts State and Territorial Survey Data for 1980-81. March 18, 1982. N=38 states responding.

AJB/5.14/82

Table 8. Number of Secondary Schools Offering Federally Funded and Non-Federally Funded Industrial Arts, by State for 1978-1979

State	Total Secondary Schools	Secondary Sch with IA	Sec Sch with Fed $ for IA
Alabama	462	81	45
Alaska	103	99	4
Arkansas	400	100	50
California	1094	1094	219
Colorado	469	400	0
Delaware	67	67	10
Dist. of Col.	49	32	32
Georgia	368	264	165
Hawaii	37	37	0
Iowa	439	245(d)	11
Idaho	190	151	35
Indiana	371	369	0
Kentucky	327	185	75
Maryland	297	294	5
Minnesota	650	635	0
Missouri	456	411	0
Mississippi	273	250(d)	226
Montana	172	132	0
Nevada	35	35	0
New Jersey	726	720	50
New Mexico	207	162	0
North Dakota	251	142	42
Ohio	1159	1159	0
Oklahoma	842	247	0
Oregon	234	220	0
Pennsylvania	989	989	9
Puerto Rico	384	130	0
Tennessee	473	300	300
Texas	2198	1095	0
Vermont	72	72	0
Virginia	491	441	403
West Virginia	331	186	24
Wisconsin	384	384	331
Wyoming	76	76	15
Virgin Islands	8	8	3
TOTAL 35(c)	15,122	11,201	2050

Notes:

a. In the 35 reporting states, 74.1% of the secondary schools offer industrial arts courses.

b. Of the reported 10,698 secondary schools offering industrial arts courses, 18.3% received some federal money.

c. Only the states with complete data (both total number of secondary schools and number of secondary schools with industrial arts) are presented in this table. States with partial responses (AZ, CT, FL, IL, LA, MA, MI, NE, NH, NY, SC, SD, WA), were omitted.

d. Best estimate based on examination of survey responses.

Source:

Standards for Industrial Arts Education Program Projects Report of Survey Data. September 1980, Table 20, p. 50.

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Table 9. General Laboratory Facilities Available in Schools, Reported by Industrial Arts Chairpersons

Laboratories	Random Sample Count	Random Sample % Cases	Exemplary Sample Count	Exemplary Sample % Cases
Construction	149	29.7	59	41.0
Crafts	137	27.3	50	34.7
Drafting	281	56.1	83	57.6
Electricity electronics	166	33.1	60	41.7
General Industrial Arts	247	49.3	64	44.4
Graphic Arts	108	21.6	59	41.0
Home mechanics	49	9.8	24	16.7
Industrial materials and processes	28	5.6	7	4.9
Manufacturing	49	9.3	36	25.0
Metals	279	55.7	83	57.6
Plastics	80	16.0	41	28.5
Power/automotive mechanics	146	29.1	60	42.4
Research and development	5	1.0	8	5.6
Service industry	3	0.6	1	0.7
General Goods	308	61.5	91	63.2
Exploring technology	23	4.6	6	4.2
American Industry	23	4.6	8	5.6
Finishing materials and methods	53	10.6	14	9.7
Other Industrial Arts	29	5.8	22	15.3
N of cases valid	501		144	
missing	218		47	

Source: Standards for Industrial Arts Project: Report of Survey Data, September 1980, Table 82, p. 132.

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Table 16. Industrial Arts Unit Laboratory Facilities Reported by Responding Industrial Arts Chairpersons from Exemplary, Random and Overall Samples

	Random Sample	Exemplary Sample	Total①	Percent of Total
Woods	427	141	1,631	13.6
Numerical woods				
Woods technology				
Other woods				
Crafts	410	126	715	9.4
Art metals				
Ceramics				
Industrial crafts				
Leather				
Jewelry				
Lapidary				
Textiles				
Other Crafts				
Drafting	997	282	1,744	23.0
Architectural drafting				
Descriptive geometry				
Drafting technology				
Engineering drawing				
Industrial design				
Mechanical drawing				
Technical illustration				
Other drafting				
Electricity/Electronics	357	114	598	7.9
Electricity				
Electronics				
Other EE				
Instrumentation				
Graphic Arts	410	167	771	10.2
Photography				
Photolithography				
Printing				
Communications				
Other graphic arts				
Energy & Power	332	111	596	7.9
Fluid power				
Auto mechanics				
Power/auto				
Power mechanics				
Transportation				
Power transportation				
Other power				

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Table 16. Industrial Arts Unit Laboratory Facilities Reported by Respondents Continued Industrial Arts Chairpersons from Exemplary, Random and Overall Samples

	Random Sample	Exemplary Sample	Total①	Percent of Total
Industrial Materials & Processes	30	23	49	0.9
Materials & processes				
Industrial processes				
Numerical control				
Other indust. materials & processes				
Manufacturing & Production	66	28	132	2.0
Metals	1,011	262	1,669	22.1
General metals				
Metals machining				
Metal technology				
Sheet metal				
Welding				
Foundry				
Other metals				
Plastics	110	46	224	3.0
Plastics technology				
Other plastics				
N (valid)	4,306	1,297	7,569②	

Note:

a. Total includes laboratories reported that not displayed by AIARA sample.

Source:

Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980, Table 83, pp. 134-136.

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Table 11. Number of Fully Certified Industrial Arts Teachers in 1975-80, by State, as Reported by State Supervisors

State	1975-76①			1976-77①			1977-78①			1979-80②		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Alabama	120	2	122	140	4	144	185	6	191	172	8	180
Alaska	190	8	198	210	8	218	220	8	228	-	-	-
Arizona	803	3	806	814	2	816	823	1	824	-	-	785
Arkansas	90	0	90	100	0	100	100	0	100	-	-	-
California	6780	55	6835	6945	101	7046	7146	136	7282	-	-	7818
Colorado	960	8	968	960	9	969	950	10	960	-	-	-
Connecticut	-	-	-	-	-	-	1215	6	1221	-	-	-
Delaware	187	0	187	190	0	190	190	0	190	-	-	-
Dist. of Col.	108	3	111	105	3	108	100	3	103	-	-	-
Florida	1079	24	1103	1169	23	1192	1233	20	1253	1198	31	1229
Georgia	613	8	621	581	9	590	581	10	591	540	13	553
Hawaii	263	0	263	220	1	221	225	1	226	225	2	227
Idaho	247	0	247	260	0	260	249	0	249	236	0	236
Illinois	-	-	-	-	-	-	4624	-	4624	-	-	-
Indiana	2150	2	2152	2200	3	2203	2240	-	2240	2297	3	2300
Iowa	1051	1	1052	1051	2	1053	1051	5	1056	1064	3	1067
Kentucky	350	2	352	565	3	568	575	2	577	477	2	479
Louisiana	-	-	-	-	-	-	530	10	540	427	3	430
Maine	-	-	-	-	-	-	-	-	-	362	6	368
Maryland	-	-	-	-	-	-	-	-	-	1396	48	1417
Massachusetts	1935	4	1939	-	3	-	2000	15	2015	-	-	1800
Michigan	3463	28	3491	3365	29	3394	3284	24	3308	3045	24	3069
Minnesota	1560	3	1563	1540	3	1543	1510	1	1511	1300	2	1302
Mississippi	260	0	260	268	0	268	274	0	274	278	0	278
Missouri	1235	5	1240	1275	8	1283	1255	11	1266	-	-	1180
Montana	223	0	223	225	0	225	228	1	229	273	0	273
Nebraska	-	-	-	-	-	-	-	-	-	817	2	819
Nevada	15	0	15	18	0	18	20	0	20	150	30	180
New Hampshire	-	-	-	-	-	-	-	-	-	350	3	353
New Jersey	2650	10	2660	2700	13	2713	2800	15	2815	2173	28	2201
New Mexico	312	0	312	307	0	307	303	0	303	100	0	100
New York	4429	67	4496	4314	70	4384	4289	88	4377	4177	27	4204
North Carolina	588	12	598	583	15	598	580	18	598	287	24	311
North Dakota	189	0	189	191	1	192	186	1	187	183	0	183

continued,

Table 11. Number of Fully Certified Industrial Arts Teachers in 1975-80, by State, as Reported by State Supervisors Continued

State	1975-76①			1976-77①			1977-78①			1979-80②		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ohio	2950	6	2956	2925	8	2933	2900	12	2912	3657	12	3669
Oklahoma	500	4	504	455	4	459	461	5	466	-	-	-
Oregon	950	1	951	950	1	951	950	2	952	790	8	798
Pennsylvania	3012	25	3037	3022	25	3047	3032	25	3057	-	-	-
Puerto Rico	541	1	542	569	18	587	548	19	567	440	5	445
South Carolina	-	-	-	-	-	-	-	-	-	-	-	157
South Dakota	-	-	-	-	-	-	-	-	-	-	-	227
Tennessee	471	4	475	460	5	465	456	6	462	359	6	365
Texas	2244	46	2290	2229	44	2273	2087	42	2129	-	-	1882
Utah	473	0	473	458	1	459	436	1	437	445	1	446
Vermont	202	1	203	204	1	205	220	1	221	196	2	198
Virginia	966	8	974	971	8	979	1049	12	1061	-	-	960
Washington	1500	1	1501	1500	2	1502	1500	3	1503	-	-	-
Wisconsin	1750	0	1750	1800	2	1802	1840	2	1842	1809	14	1823
Wyoming	226	2	228	230	2	232	241	2	243	224	2	226
Virgin Islands	17	2	19	21	2	23	23	2	25	13	2	15
Totals	47,790	346	48,136	46,090	433	46420	54709	526	55235	24886	253	39948
N	41	41	41	40	41	40	44	42	44	29	29	37

Sources:

1. Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980. Table 64, p. 110.

2. Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 2, p. 8., Total number of industrial arts teachers, certified and uncertified, = 44,598 with 37 states reporting.

Table 12. Industrial arts teachers employed from 1975-76 to 1977-78, by level of certification in industrial arts by states

State	1975-76① Certification			1976-77① Certification			1977-78① Certification			1979-80② Certification	
	Full	Temp	Non-	Full	Temp	Non-	Full	Temp	Non-	Full	Non-
Alabama	122	9	18	144	9	23	191	0	23	180	0
Alaska	198	60	-	218	60	-	220	60	-	-	-
Arizona	800	-	-	816	-	-	824	-	-	705	38
Arkansas	90	0	0	100	0	0	100	0	0	-	-
California	6835	-	-	7,046	-	-	7,282	-	-	7,810	115
Colorado	960	0	0	969	0	0	960	0	0	-	-
Connecticut	-	-	-	-	-	-	1,221	-	-	-	-
Delaware	187	0	0	190	0	0	190	0	0	-	-
Dist. of Col.	111	-	-	100	-	-	103	-	-	-	-
Florida	1,103	-	122	1,192	-	70	1,253	-	35	-	-
Georgia	621	3	0	590	6	0	591	7	0	-	-
Hawaii	203	0	1	221	1	1	226	2	2	227	1
Idaho	247	-	-	260	-	-	249	-	-	236	12
Illinois	-	61	-	-	51	-	4,624	63	-	-	-
Indiana	2,152	0	0	2,203	0	0	2,240	0	0	2,300	14
Iowa	1,052	10	-	1,053	12	-	1,056	15	-	1,067	0
Kentucky	552	0	0	560	0	0	577	0	0	479	0
Louisiana	-	-	-	-	-	-	540	11	20	430	67
Maine	-	-	-	-	-	-	-	-	-	360	20
Maryland	-	-	-	-	-	-	-	-	-	1,417	24
Massachusetts	1,939	400	-	-	350	-	2,015	0	-	1,900	200
Michigan	3,491	-	-	3,394	-	-	3,308	-	-	3,069	0
Minnesota	1,563	0	0	1,543	0	0	1,511	0	0	1,302	0
Mississippi	260	8	0	268	6	0	274	0	0	278	0
Missouri	1,240	0	0	1,283	0	0	1,266	0	0	1,180	16
Montana	223	0	0	225	0	0	229	0	0	273	4
Nebraska	-	-	-	-	-	-	-	-	-	819	-
Nevada	15	0	0	18	0	0	20	0	0	180	20
New Hampshire	-	-	-	-	-	-	-	-	-	353	5
New Jersey	2,660	68	0	2,713	60	0	2,815	60	0	2,201	45
New Mexico	312	3	0	307	2	0	303	2	0	100	4
New York	4,496	-	80	4,384	-	66	4,377	-	48	4,204	10
North Carolina	598	10	10	598	6	9	598	10	10	311	6
North Dakota	189	0	0	192	0	0	187	0	0	183	0

continued

Table 12. continued — Industrial arts teachers employed from 1975-76 to 1977-78, by level of certification in industrial arts by states

State	1975-76 (1) Certification			1976-77 (1) Certification			1977-78 (1) Certification			1979-80 (2) Certification	
	Full	Temp	Emer-	Full	Temp	Emer-	Full	Temp	Emer-	Full	Emer-
Ohio	2,956	0	15	2,933	12	14	2,912	24	10	2,669	97
Oklahoma	504	-	-	499	-	-	466	-	-	-	-
Oregon	951	-	-	951	-	-	952	-	-	798	20
Pennsylvania	3,037	25	15	3,047	20	10	3,057	15	5	-	-
Puerto Rico	542	13	1	587	34	42	567	34	42	443	126
South Carolina	-	-	-	-	-	-	-	-	-	157	18
South Dakota	-	-	-	-	-	-	-	-	-	227	6
Tennessee	479	5	44	465	5	48	462	7	51	343	35
Texas	2,299	30	-	2,273	18	-	2,129	28	-	1,882	18
Utah	473	6	6	459	6	6	437	5	5	446	2
Vermont	203	0	0	208	0	0	221	0	0	198	0
Virgin Islands	19	0	0	23	0	0	25	0	0	15	0
Virginia	974	79	79	979	66	66	1,061	92	92	960	104
Washington	1,501	0	0	1,501	0	0	1,503	0	0	-	-
West Virginia	-	-	0	-	-	0	-	-	0	-	-
Wisconsin	1,750	0	0	1,802	0	0	1,842	0	0	-	-
Wyoming	228	-	-	232	-	-	243	-	-	226	0
Totals	48,136	765	393	46,420	692	335	55,235	395	343	39,948	1,655
N	41	32	30	40	32	30	44	32	31	37	37
Grand Totals		49,294			47,447			55,973		Overall	44,598

Note: Overall reported total includes 3,615 not identifiable as to degree of certification.

Source: 1. Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980, Table 63, p. 108.

2. Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 2, p. 8.

Table 13. Degrees Held by Industrial Arts Teachers as Reported by Chairpersons

Degrees	All Teachers (1) 1975-76 National Secondary Percentages	Industrial Arts (2) 1979 Random Sample Percentages	1979 Exemplary Sample %
None	.07	3.3	1.4
Bachelor's	53.8	52.2	46.0
Master's	41.2	42.0	48.3
Ed. Specialist's	3.3	2.2	3.4
Doctor's	.7	0.2	0.6
Respondent N	NA	328	160

Sources:

1. Digest of Education Statistics: 1981, Table 49, p. 59

2. Standards for Industrial Arts Programs Project: Report of Survey Data. September 1980, Table 70, p. 118.

Table 14. Percentage of Industrial Arts Teachers with Varying Contract Lengths as Reported by Principals

	Contract Length in Months							
	9 - 9 1/2		10 - 10 1/2		11 - 11 1/2		12	
	%	N	%	N	%	N	%	N
Random Sample	36.5	977	36.3	628	2.4	42	4.7	82
AIASA Sample	37.1	287	42.3	327	16.3	126	4.2	33
Exemplary Sample	36.1	300	39.2	271	3.0	21	1.5	11

Source:

Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980. Table 74, p. 122.

Table 15 Industrial Arts State Level Supervisory Personnel

State①	Number of FTE Industrial Arts Program Supervisors/Staff			Staff Members Assigned to Student Organizations	
	1979	79-80②	80-81②	79-80②	80-81①
Alabama	-	1.00	1.00	Yes	No
Alaska	-	-	-	-	No
Arizona	-	-	2.50	-	Yes
Arkansas	-	0.25	-	No	-
California	-	9.00	9.00	No	No
Colorado	-	0.50	0.50	No	No
Connecticut	-	1.00	-	Yes	-
Delaware	-	1.00	-	Yes	-
Dist. of Columbia	-	1.00	-	Yes	-
Florida	-	3.50	4.00	Yes	Yes
Georgia	-	3.00	1.00	Yes	Yes
Hawaii	-	1.00	1.00	No	No
Idaho	-	2.00	1.00	Yes	Yes
Illinois	-	3.00	-	Yes	-
Indiana	-	1.50	1.50	No	No
Iowa	-	1.00	1.00	No	No
Kentucky	-	1.00	1.00	No	No
Louisiana	-	2.00	2.00	Yes	Yes
Maine	-	1.00	1.00	No	Yes
Maryland	-	1.00	1.00	No	No
Massachusetts	-	1.00	0.00	No	-
Michigan	-	0.50	0.50	Yes	No
Minnesota	-	1.00	0.50	No	No
Mississippi	-	2.00	2.00	Yes	Yes
Missouri	-	1.00	1.00	No	No
Montana	-	2.00	0.25	Yes	Yes
Nebraska	-	1.00	1.00	Yes	Yes
Nevada	-	-	1.00	-	Yes
New Hampshire	-	1.00	1.00	No	No
New Jersey	-	2.00	2.00	Yes	Yes
New Mexico	-	2.00	2.00	Yes	Yes
New York	-	5.00	5.00	Yes	Yes
North Carolina	-	2.00	2.00	Yes	Yes
North Dakota	-	1.00	1.00	Yes	Yes

continued

RJD/5.14.82

Table 13 Industrial Arts State Level Supervisory Personnel
continued

State[1]	Number of FTE Industrial Arts Program Supervisors/Staff			Staff Members Assigned to Student Organizations	
	1979	79-80[2]	80-81[3]	79-80[2]	80-81[3]
Ohio	-	3.00	3.00	Yes	Yes
Oklahoma	-	-	-	Yes	-
Oregon	-	0.75	0.70	No	No
Pennsylvania	-	1.00	1.00	Yes	Yes
Puerto Rico	-	-	3.00	Yes	No
South Carolina	-	1.00	0.00	No	No
South Dakota	-	0.00	0.00	No	No
Tennessee	-	5.00	4.00	Yes	Yes
Texas	-	-	2.00	Yes	Yes
Utah	-	1.00	1.00	No	No
Vermont	-	1.00	1.00	Yes	Yes
Virgin Islands	-	1.00	1.00	No	No
Virginia	-	5.30	6.00	Yes	Yes
Washington	-	.50	-	No	-
West Virginia	-	1.00	-	No	-
Wisconsin	-	1.00	0.00	No	Yes
Wyoming	-	0.50	0.50	No	No
Totals	54.7 1	77.3	69.33		
Mean	1.22	1.72[1]	1.44[1]		
		1.76[1]	1.73 b		

Notes: a. Mean of states reporting data.
b. Mean of states reporting staff.
c. Only responding states shown

Source: 1. Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980, p. 39.

2. Report of Industrial Arts State and Territorial Survey Data for 1979-80, March 1981, Table 12, p. 22.

3. Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 12, p. 22.

Table 16. Public Secondary Schools Offering Specific Courses, Enrollments in the Schools and Courses, and their Percent U.S. Totals, by Course Title: United States, 1972-73

U.S Total Secondary Schools = 23,737; U.S Total Secondary Enrollment = 16,377,334

Subject Area and Course Title	Secondary Schools Offering Course		Secondary School Enrollment in Schools Offering Course		Course Enrollment 1972-73		
	Number	As % of US Tot.	Number	As % of US Tot.	U.S. Total	As % of US Tot Enrol.	% of Enrol. in Schools Offering Crs.
Industrial Arts (10. Totals)	18,466	81.2	16,688,162	89.8	5,736,138	30.8	34.3
General industrial arts, Grade 7-8	6,391	28.1	4,629,226	24.9	1,071833	5.8	23.1
General industrial arts, 1st year	7,726	34.0	6,068,862	32.7	503,139	2.7	8.3
General industrial arts, 2nd year	3,308	14.6	2,202,641	11.9	103,520	.6	4.8
General industrial arts, 3rd/4th year	2,178	9.6	1,649,429	7.8	62,810	.3	4.3
Home mechanics	624	2.7	685,864	3.7	32,963	.2	4.8
Industrial arts for girls	370	1.6	283,373	1.5	16,911	.1	6.0
Exploratory ind. arts/career orientation	669	2.9	623,639	3.4	69,630	.4	11.2
Building and construction	1,254	5.5	1,264,237	6.8	63,860	.3	5.1
Carpentry/woodworking	1,387	6.1	1,277,139	6.9	46,354	.2	3.6
Wards, general, Grade 7-8	2,643	9.8	1,866,345	10.0	248,467	1.3	13.3
Wards, general, Grade 9-12	8,947	38.4	9,116,868	49.1	641,364	3.5	7.0
Crafts, Grade 7-8	668	2.7	463,861	2.5	67,988	.4	14.5
Crafts, Grade 9-12	1,297	5.7	1,282,868	6.9	94,983	.5	7.4
Jewelry/art metals	709	3.5	948,479	5.1	59,541	.3	6.3
Leather/textiles/upholstery	512	2.3	379,896	2.0	29,053	.2	7.6
Plastics	882	3.9	938,870	5.1	57,656	.3	6.1
Drafting/drawing, Grade 7-8	938	4.1	868,719	4.7	100,267	.5	11.5
Drafting/drawing, Grade 9-12	6,094	26.8	6,733,758	36.2	322,436	1.7	4.8
Drafting/drawing, other specialized dra.	1,739	7.6	2,371,910	12.8	54,089	.3	2.3
Drawing, mechanical, Grade 7-8	846	3.5	672,256	3.6	91,946	.5	13.7
Drawing, mechanical, Grade 9-12	5,129	22.6	5,551,384	29.9	271,648	1.5	4.9
Electricity/Electronics	534	2.3	820,795	4.4	21,674	.1	2.6
Electricity, Grade 7-8	739	3.3	809,642	4.4	76,110	.4	9.4
Electricity, Grades 9-12	4,233	18.6	5,460,646	29.4	201,225	1.1	3.7
Graphic arts, Grade 7-8	993	2.6	728,857	3.9	66,794	.4	9.3
Graphic arts, Grade 9-12	2,256	9.9	3,363,257	17.8	127,888	.7	3.9
Photography	1,038	4.6	1,237,789	6.8	54,158	.3	4.3
Printing/photolithography/grph. comm.	625	2.7	964,979	5.2	36,110	.2	3.8

continued

Table 14. Public Secondary Schools Offering Specific Courses, Enrollments in the Schools and Courses, and their Percent of continued U.S. Totals, by Course Titles United States, 1972-73

U.S Total Secondary Schools = 22,737; U.S Total Secondary Enrollment = 18,577,234

Subject Area and Course Title	Secondary Schools Offering Course: Number	Secondary Schools Offering Course: As % of US Tot.	Secondary School Enrollment in Schools Offering Course: Number	Secondary School Enrollment in Schools Offering Course: As % of US Tot.	Course Enrollment 1972-73: U.S. Total	Course Enrollment 1972-73: As % of US Tot Enrol.	Course Enrollment 1972-73: % of Enrol. in Schools Offering Cre.
Applied shop	337	1.5	368,432	2.0	38,792	.2	8.4
Industrial arts mathematics/science	532	2.4	725,683	3.9	48,441	.2	5.9
Manufacturing	470	2.1	569,450	3.1	44,467	.2	7.9
Industrial materials/technology/processes	540	2.4	728,882	3.9	33,770	.2	4.6
Metalworking, Grade 7-8	1,250	5.5	1,394,451	7.5	158,947	.9	11.4
Metalworking, Grade 9-12, and forndry	6,311	27.8	7,398,448	39.8	377,664	2.0	5.1
Welding	1,425	6.3	1,140,226	6.1	54,864	.3	4.8
Automotive Mechanics	2,867	12.6	3,207,494	17.3	200,125	1.1	6.2
Power/automotive mechanics	1,229	5.4	1,631,147	8.8	76,461	.4	4.7
Power mechanics	2,188	9.6	2,338,190	12.7	126,946	.7	5.4

Source: Summary of Offerings and Enrollments in Public Secondary Schools 1972-1973. NCES 76-150, Table 6, page 14.

Table 17 Most Frequently Offered and Representative Industrial Arts Courses, by Grades 1979

Grade 6-7	Grade 8-9	Grade 10-12
1 - General Woods	General Industrial Arts	General Woods
2 - General Industrial Arts	General Woods	General Architectural Drafting
3 - General Metals	General Metals	General Metals
4 - Electricity Drafting	Mechanical Drawing	Mechanical Drawing
5 - Other Industrial Arts	Drafting	Drafting
6 - Mechanical Drawing	Other Ind. Materials and Processes	Graphic Arts
7 - Graphic Arts	Construction	Electricity /Electronics
8 - Woods Technology	Electricity	Automotive Mechanics
9 - Leather	Power-Automotive Mechanics	Woods Technology
10 - Construction	Graphic Arts	Electricity
11 - Other Woods	Other Woods	Welding
12 - American Industry Manufacturing Plastics Power Mechanics	Industrial Crafts	Metal Machining
13 - Ceramics Exploring Technology Industrial Crafts Welding	Other Industrial Crafts Other Metals Woods Technology	Power Mechanics Construction
14 - Automotive Mechanics Crafts General Home Mechanics	Electricity Electronics	Other Woods
15 - Photography	Power Transportation	Electronics

Note: 1. Represents compilation of Exemplary, AIASA, and Random Sample School Reports by Industrial Arts Department Chairpersons.

Source

Standards for Industrial Arts Programs Project. Report of Survey Data, September, 1980. Tables 22, 23, & 24; pages 34, 36 & 38.

Table 18. Representative Industrial Arts Courses Taught in Industrial Arts as Reported by Industrial Chairpersons (Sample Data)

COURSE NAME	TOTAL ①
Art Metals	20
Ceramics	47
Crafts	30
Industrial Crafts	37
Leather	72
Textiles	2
Jewelry and Lapidary	15
Other Industrial Crafts	14
Architectural Drafting	290
Descriptive Geometry	9
Drafting	330
Drafting Technology	53
Engineering Drawing	70
Industrial Design	9
Mechanical Drawing	390
Technical Illustration	14
Other Drafting	22
Electricity	186
Electricity - Electronics	145
Electronics	76
Other Electricity -Electronics	9
General Industrial Arts	442
Graphic Arts	282
Photography	87
Photolithography	18
Printing	30
Communications Technology	44
Other Graphic Arts	16
General Power Mechanics	51
Fluid Power	7
Industrial Materials	2
Industrial Materials and Processes	32
Industrial Processes	2
Instrumentation	0
Numerical Control	0
Other Industrial Materials and Processes	5
Manufacturing	137
Production Technology	9

Continued

Table 15. Representative Industrial Arts Courses Taught in Industrial Arts as Reported by Industrial Chairpersons (Sample Data) continued

COURSE NAME	TOTAL[1]
General Metals	441
Metal Machining	86
Metal Technology	43
Sheet Metal	31
Welding	103
Foundry	20
Other Metals	12
Plastics	70
Plastics Technology	14
Other Plastics	2
Automotive Mechanics	139
Power-Automotive Mechanics	50
Power Mechanics	151
Transportation	8
Power Transportation	44
Other Power-Automotive	33
Research and Development	8
Service Industries	0
Construction	149
General Woods	469
Woods Technology	149
Other Woods	98
American Industry	58
Exploring Technology	39
Finishing Materials and Methods	5
Other Industrial Arts	92

Notes:

1. Sum of reported grade frequencies for Exemplary, Random, and AIASD schools. N = 1266.

Source:

Standards for Industrial Arts Program Project: Report of Survey Data, September, 1968. Tables 22, 23, & 24; pp. 54, 56, & 58.

Table 19. American Industrial Arts Student Association Descriptive Statistics

MAP KEY
Prefix Number—Represents AIASA Chapters
Suffix Number—Represents AIASA Members

MAP TOTALS
AIASA Chapters: 878
AIASA Members: 21,665

Source: The School Arts, Sept. 1981, Vol.13, 01, p. 9.

Table 20. American Industrial Arts Student Association (AIASA) Activities

State	1980[1] AIASA Chapters	1981[2] AIASA		1980 [1] AIASA WORKSHOPS	
		Chapter	Members	Held Workshops	# Teacher Participants
Alabama	0	3	30	No	-
Alaska	0	0	0	No	-
Arizona	10	15	327	Yes	32
Arkansas	-	0	0	-	-
California	-	0	0	No	-
Colorado	-	3	53	No	-
Connecticut	-	16	340	-	-
Delaware	-	6	69	-	-
Dist. of Columbia	-	0	0	-	-
Florida	22	23	495	Yes	60
Georgia	305	295	3,326	Yes	202
Guam	-	0	0	-	-
Hawaii	0	0	0	No	-
Idaho	4	4	57	No	-
Illinois	-	22	519	-	-
Indiana	2	2	24	No	-
Iowa	0	2	44	No	-
Kansas	-	11	281	-	-
Kentucky	5	1	25	No	-
Louisiana	43	40	909	Yes	43
Maine	1	1	15	Yes	50
Maryland	0	0	0	No	-
Massachusetts	-	0	0	-	-
Michigan	0	0	0	No	-
Minnesota	2	2	50	No	-
Mississippi	39	39	890	Yes	115
Missouri	8	10	217	yes	25
Montana	0	0	0	No	-
Nebraska	4	3	55	No	-
Nevada	0	0	0	No	-
New Hampshire	3	3	57	No	-
New Jersey	38	40	640	Yes	75
New Mexico	9	7	141	Yes	8
New York	10	10	150	Yes	1,600
North Carolina	18	15	339	Yes	22
North Dakota	0	0	0	No	-

continued

NJB/5.14.82

Table 30. American Industrial Arts Student Association (AIASA) Activities (continued)

State	1980① AIASA Chapters	1981② AIASA Chapter	1981② AIASA Members	1980①AIASA WORKSHOPS Held Workshops	1980①AIASA WORKSHOPS # Teacher Participants
Ohio	17	13	215	Yes	15
Oklahoma	-	33	701	-	-
Oregon	-	0	0	-	-
Pennsylvania	7	7	145	Yes	12
Puerto Rico	1	0	0	No	-
Rhode Island	-	0	0	-	-
South Carolina	0	0	0	No	-
South Dakota	-	0	0	No	-
Tennessee	29	29	718	Yes	35
Texas	354	183	6,789	No	-
Utah	0	0	0	No	-
Vermont	3	3	43	Yes	8
Virgin Islands	0	0	0	No	0
Virginia	115	113	3,442	Yes	146
Washington	-	1	10	-	-
West Virginia	-	12	266	-	-
Wisconsin	-	0	0	No	-
Wyoming	2	1	27	Yes	15
Total	939	870	21,665		2,503

Sources:

1. Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 14, p. 24.

2. The School Shop. AIASA, Vol. 13, Sept. 1981, p. 9.

AJD/3.14.82

Table 21. Vocational Student Organizations, 1980-81

VOCATIONAL STUDENT ORGANIZATIONS
1980–81

Organization	States and Territories	Student Chapters	Student Members	Secondary Chapters	Secondary Members	Postsecondary Chapters	Postsecondary Members
American Industrial Arts Students Association (AIASA)	27	876	21,885*	876	21,885	NA	NA
Distributive Education Clubs of America (DECA)	51	5,438	177,770	5,098	169,055	340	8,715
Future Farmers of America (FFA)	51	8,787	566,611	8,236	482,611	531	83,000
Future Homemakers of America (FHA/HERO)	53	12,818	393,253	NA	NA	NA	NA
Future Business Leaders of America (FBLA) Phi Beta Lambda (PBL)	52	8,000	200,000	NA	NA	NA	NA
Health Occupations of America (HOSA)	27	1,014	28,079	NA	26,581	NA	1,398
Office Education Association (OEA)	25	3,450	74,256	NA	68,036	NA	6,220
Vocational Industrial Clubs of America (VICA)	51	10,807	250,567	NA	NA	NA	NA
	TOTAL	50,990	1,721,321				

*Includes Middle Schoo

Source: Ibid, September 1981, p. 39

629/5.14.82

Table 22. Perceptions of the Academic Abilities of Students Enrolled in Industrial Arts

"How would you rate the academic abilities of those students in your school who take industrial arts courses in comparison to the general school population?"

IA Student Ability Rating	Adjusted Frequencies (i.e., % of those responding)			
	Guidance Coordinators		I.A. Chairpersons	
	Random	Exemplary	Random	Exemplary
Well Below	0.2	0.6	2.7	0.6
Tends to be Below	24.6	36.8	39.3	37.6
Same	68.0	57.9	54.0	59.4
Tends to be Above	6.5	3.5	4.1	2.4
Well Above	0.6	1.2	0.0	0.0

Source:

Standards for Industrial Arts Programs Project: Report of Survey Data. September, 1980. Tables 48 & 49, pages 86 & 87.

NJB/S.14.82

Table 23. Percentage Distribution of Industrial Arts Students by Social and Ethnic Groups

	IA Students (1979) in Comprehensive and Vocational High School ①			IA Students (1979) in Random Sample of Schools ②	IA Students (1979) in Sample of Exemplary Schools ③	I of All Students Enrolled in Secondary School and Taking at Least One IA Course in 1972-73 ①		
	Male	Female	Total			Male	Female	Total
American Indian or Alaskan Native	1.0	0.1	1.1	1	1			
Asian or Pacific Islander	1.0	0.1	1.1	2	2			
Hispanic	6.7	0.9	7.6	6	3			
White (Not Hispanic)	69.2	7.7	76.9	82	81	47.2	7.2	54.4
Black (Not Hispanic)	11.6	1.7	13.3	10	13	43.0	8.4	51.4
N (students)	-	-	-	117,063	45,432			

SOURCES: 1. The Condition of Vocational Education and Vocational Education Data. Supplement to prepared testimony of R. H. Wolfsberg, September 17, 1980, Table 4.15 (p. 671 in Current Issues in Vocational Education.)

2. Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980, Table 47, p. 85.

3. High School Learning, Vocational Tracking, and What then? July 1980, Table 3.7, p. 32.

NJD/5.14.82

Table 24. Average Number of Students with Special Needs Enrolled in Industrial Arts Courses, Reported by Chairpersons

	RANDOM SAMPLE N = 3029			ALUMA SAMPLE N = 2198			EXEMPLARY SAMPLE N = 1050		
SPECIAL NEEDS STUDENTS	MEAN	# OF SCH	% OF SCH	MEAN	# OF SCH	% OF SCH	MEAN	# OF SCH	% OF SCH
Hard of hearing	3.1	147	38	3.0	61	28	4.9	44	44
Deaf	2.5	11	3	2.1	8	4	5.3	4	4
Visually handicapped	3.2	94	25	5.9	47	21	8.4	32	30
Deaf-blind	1.0	1	-	0.0	0	0	2.0	1	1
Speech impaired	3.2	154	40	3.3	75	34	8.9	45	43
Orthopedically impaired	2.1	76	20	1.8	37	17	2.5	26	25
Specific learning disability	10.8	253	66	9.1	137	63	13.4	69	66
Other health impaired	4.3	81	21	6.8	35	16	7.4	29	28
Mentally gifted and talented	9.4	145	38	8.7	101	46	10.8	46	44
Mentally retarded	7.3	126	33	6.6	86	39	8.5	42	40
Seriously emotionally disturbed	4.5	93	24	3.9	50	23	5.9	33	31
Disadvantaged	21.0	187	49	21.3	117	53	20.4	58	55

[1]Number of schools with responses in all categories of special needs.

The "# of Schools" column is the number of schools that reported having one or more students within a given category of special need. The mean, therefore, reflects no zero enrollments but is the average for schools that reported having enrollments.

Source: Standards for Industrial Arts Programs Project: Report of Survey Data. September, 1980, Table 42, p. 80.

KJT/5.14.82

Table 25. Handicapped and Disadvantaged Students in Industrial Arts Courses, Spring 1981 (Partial Data)

State	Handicapped		Disadvantaged	
	Number	% of Total	Number	% of Total
Alabama	590	11	1,474	27
California	343	0	99,647	18
Florida	4,419	5	-	-
Georgia	774	1	-	-
Hawaii	1,500	43	-	-
Idaho	228	1	375	2
Kentucky	374	1	251	1
Louisiana	598	2	6,267	20
Maryland	4	0	35	0
Mississippi	250	2	3,851	24
Missouri	-	-	1,961	1
Nevada	100	1	25	0
New Hampshire	784	6	865	6
New Jersey	4,426	1	42,841	10
North Carolina	4,518	30	3,114	14
North Dakota	50	-	340	-
Ohio	7,085	2	-	-
Puerto Rico	729	1	-	-
Tennessee	3,482	5	12,358	19
Virgin Islands	75	5	1,443	8
Virginia	2,986	3	17,143	16
Wyoming	493	4	2,257	19
Totals Responding states	40,118 (N=21)		186,199 (N=17)	

SOURCE: Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 6, p. 13.

Table 2A. Federal and Non-Federal Expenditures by Legislative Purpose, 1979 (in millions)

Subpart 2: Basic Grant

	Federal	Percent of Total	Non-Federal	Percent of Total
TOTAL	385.5	100.0	4451.2	100.0
Vocational Educational Programs	368.4	86.0	3834.5	86.1
Sex Equity Personnel	2.6	0.7	0.0	0.0
Displaced Homemakers	1.7	0.4	1.3	0.0
State Administration	36.3	9.5	44.1	1.0
Work Study	5.2	1.3	5.3	0.1
Cooperative	7.7	2.0	97.1	2.2
Energy Education	0.3	0.1	0.2	0.0
Construction	12.1	3.1	149.4	3.4
Stipends	0.4	0.1	0.0	0.0
Placement Services	0.6	0.2	1.8	0.0
Industrial Arts	2.4	0.6	87.9	2.0
Support Services for Women	0.5	0.1	0.3	0.0
Day Care	0.2	0.1	0.7	0.0
Residential Schools	0.9	0.2	3.3	0.1
Contracted Instruction	0.2	0.1	3.1	0.1
Local Administration	5.7	1.5	220.2	5.0

Subpart 3: Program Improvement and Supportive Services

TOTAL	107.3	100.0	240.0	100.0
State Administration	9.6	8.9	8.1	3.4
Guidance & Counseling	38.0	35.4	168.4	70.2
Preservice/Inservice	21.0	19.5	20.6	8.6
Grants to Overcome Sex Bias	1.9	1.8	0.2	0.1
Local Administration	1.9	1.8	16.9	7.1
Research	6.0	5.6	3.0	1.2
Exemplary Programs	4.6	4.3	4.6	1.9
Curriculum Development	7.2	6.7	5.3	2.2
CBOs	17.1	6.0	12.9	5.3

Source: The Vocational Education Data System information, collected in 1979, cited in the The Vocational Education Study: The Interim Report. Publication No. 3, September 1980, Table VI - 16.

NJD/5.14.82

Table 27. Federal Vocational Funds Expended on Industrial Arts

State	Year	Other, Research & Travel	Staff Dvlpt. In-Service Education	Teacher Ed.	Supervis. Salaries, Support	Trans. Sal. &/or Estim. Contracts	Equip. Grants & Projects	Curr. Proj. Materials Dvlpt.	Exemplary Programs	ADMIN Staff Support	TOTAL
Arizona	80		35,000				154,145				44,500
	81		44,500			yes					
Arkansas	80					75,000					75,000
	81						1,145,875	96,000	54,000		310,000
California	80		119,000					92,000	38,000		
	81		112,000	15,000	60,000						
Colorado	80				4,000						
	81										
Connecticut	80		8,500		50,000	83,339	346,297	6,000	25,000	47,450	593,295
	81		13,000		55,000	85,710	410,185	18,000		11,600	
Delaware	80										88,000
	81				23,000		45,000				
Florida	80	30,000	17,000		100,000			25,000		5,000	1,147,000
	81	10,000	20,000	12,000	75,000		1,000,000	30,000			
Georgia	80				23,832	74,922				3,844	124,304
	81	1,120	26,904			86,455	3,713	2,268		900	
Hawaii	80								3,000		
	81										
Idaho	80		yes								
	81										
Illinois	80	601,287 program reimbursement									
	81							10,000			
Iowa	80		35,000		28,000				50,000	10,000	149,000
	81		50,000		14,000	5,000	20,000			1,500	
Kentucky	80						140,000				133,000
	81		3,000				130,000				
Louisiana	80						978,331	15,041			953,349
	81	5,000	3,000	25,000			910,349		10,000		
Maine	80		20,000								6,000
	81		6,000								
Maryland	80		8,500				15,000				23,200
	81		8,200								
Massachusetts	80	750,000									
	81										30,000
Michigan	80		50,000								
	81		30,000								223,916
Mississippi	80					222,516		400			
	81		1,000								38,643
Montana	80						20,668	4,025			
	81		1,900	4,650	4,000						31,450
Nebraska	80									3,000	
	81		300		750	12,000	600	15,000			64,300
New Hampshire	80		5,000				30,000			1,800	
	81		4,500				56,000				
New Jersey	80						506,425			12,000	266,500
	81		yes	3,500			246,000	5,000			

continued

Table 27. Federal Vocational Funds Expended on Industrial Arts
continued

State	Year	Other, Research & Travel	Staff Dvlpt. In-Service Education	Teacher Ed.	Supervis. Salaries, Support	Cnsts. Sal. &/or Estab. Contracts	Equip. Grants & Projects	Curr. Proj. Materials Dvlpt.	Exemplary Programs	AIANB Staff Support	TOTAL
New Mexico	80		3,000							4,500	
	81				28,000					5,000	33,000
New York	80		20,000							4,500	
	81					yes					
North Carolina	80		9,000					10,000			
	81		13,000			yes		132,000			147,000
North Dakota	80		12,272					9,781			
	81		2,000	13,000	20,000	yes		12,000			47,500
Ohio	80		97,679								
	81	7,130	20,000		67,600						94,730
Oklahoma	80		15,200								
	81		8,297		10,270					601	19,268
Oregon	80							30,000			
	81						2,000		14,000		16,000
Pennsylvania	80						500,000	5,500		8,500	
	81		5,440				539,809			8,500	553,749
Puerto Rico	80						11,165				
	81			18,000			120,000	5,000			143,000
South Carolina	80				14,010						
	81										
Tennessee	80	12,000	31,000		98,000		373,000	100,000			
	81		20,000	16,000			375,000				411,000
Texas	80	54,411	40,000		105,500				63,030		
	81	24,600	35,200					57,300	49,200	17,000	203,300
Utah	80		10,219					3,500			
	81		10,946			39,796					50,742
Vermont	80										
	81		yes								
Virginia	80		52,000	279,000	133,000		150,000				
	81	15,000	45,000	270,000		yes		30,000	12,000	34,000	396,000
Totals	81	62,850	388,867	379,130	357,620	526,477	3,914,124	394,773	165,200	107,147	6,416,226

Note:

Columns with "yes" show data from Report of Industrial Arts State and Territorial Survey for 1980-81, March 1982, Table 13, p. 23.

Source:

Status of Federal Funding for Industrial Arts in Relation to the Amended Vocational Education Act of 1963 for FY 80 and FY 81.

"The purpose of this report is to provide information on the inclusion of industrial arts in state plans and the actual vocational education funding for the fiscal years FY80 (ending June 30, 1980) and FY81 (ending June 30, 1981). The data are reported as submitted by the respondents. . . Because of the many variables among the states, including size, policies, procedures, and historical structure, comparisons of state data cannot be equated."

Table 28. Average Annual Expenditures for Equipment and Supplies by School Size, Reported by Chairpersons

Indicate below the average amount spent annually for 1)equipment and 2)supplies in your industrial arts department.

	RANDOM SAMPLE			ALASA SAMPLE			EXEMPLARY SAMPLE		
CATEGORY	MEAN $	N OF CASES	MISS CASES	MEAN $	N OF CASES	MISS CASES	MEAN $	N OF CASES	MISS CASES
All Sizes									
Equipment	2134	443	116	1006	299	54	4203	141	30
Supplies	3762	612	107	2505	314	39	6452	142	29
1-499									
Equipment	1790	148	116	1069	33	54	2932	25	30
Supplies	1889	149	107	1598	33	39	3162	24	29
500-999									
Equipment	1757	191	116	1380	105	54	3934	54	30
Supplies	3164	195	107	1851	111	39	3971	54	29
1000-1499									
Equipment	2547	107	116	2047	61	54	4467	32	30
Supplies	5161	112	107	3190	64	39	8310	33	29
1500-2499									
Equipment	3486	68	116	3518	48	54	4452	26	30
Supplies	7155	68	107	4929	50	39	11593	28	29
2500 plus									
Equipment	6199	13	116	2900	9	54	9211	9	30
Supplies	7923	13	107	4528	10	39	12187	8	29

Source:

Standards for Industrial Arts Programs Project: Report of Survey Data. September 1978. Table 89, p. 148.

Table 29. Example of Industrial Arts Student Follow-Up: Further Education, Employment and Salary (Minnesota Data 1978)

		Vocational				General		
Present Activity	I.A.	Ag.	Bus.	Off. Occ.	T & I	Math	Eng. Lang.	Soc. Sc.
EDUCATIONAL:								
Voc. School	14.5	17.9	14.1	17.6	22.6	13.7	14.0	14.0
Comm. College	6.9	5.0	8.0	7.0	3.4	7.9	7.5	7.5
4-yr College/Univ.	21.8	13.7	30.6	28.0	8.9	32.7	30.0	30.1
Apprenticeship	1.1	1.1	0.5	0.4	1.3	0.7	0.7	0.7
Other Education	2.1	2.2	2.5	2.6	1.6	2.3	2.3	2.2
EMPLOYMENT:								
Unemployed	6.3	4.4	6.9	6.4	4.5	7.0	6.9	6.9
Homemaker	1.9	2.2	4.0	5.9	1.4	3.2	3.5	3.5
Military	5.5	5.0	3.3	2.0	4.0	3.7	3.6	3.6
Paid Employment	68.2	70.1	63.7	70.1	76.1	63.0	64.3	64.2
OTHER								
Activity	1.7	1.8	1.6	1.8	1.7	1.4	1.5	1.5
No Total reporting activity (indiv)	6925	2310	16,386	2623	1090	12,909	14,258	14,275
Average wages !	4.51	4.67	3.92	4.17	4.59	4.25	4.26	4.26
Total Reporting Wages ($)	3693	1180	9826	1545	1048	6445	7273	7289

SOURCE:

Post High School Education and Employment Status, October 1979, pp. 28, 33, 44, 49, 60, 65, 100, 105, 108, 113, 132, 137, 148, 153, 164, 169.

Table 30 . Percentages of Industrial Arts Department Chairpersons' Responses Identifying Their Programs' Greatest Strengths and Weaknesses

	Greatest Strengths		Greatest Weaknesses	
	Random %	Total Sample %	Random %	Total Sample %
Course content	45.0	47.2	7.2	6.1
Facilities	28.6	34.1	35.0	29.8
Enrollment	28.6	32.0	16.2	12.8
Administrative support	31.5	32.3	12.4	10.1
Staffing	33.2	34.1	14.7	14.6
Methodology	21.4	23.7	10.1	10.3
Resources	13.6	17.4	20.1	16.4
Funding	11.7	15.1	43.6	43.2
Other	1.0	2.0	6.4	8.2
N of valid cases	626	1,123	622	1,089

Note: Because ratings permitted more than one response, % totals do not equal 100.

Source: Standards for Industrial Arts Programs Project: Report of Survey Data, September 1980, Tables 92 and 93, p. 152, p. 153.

Table 31. The Status of Industrial Arts Teacher Demand and Supply

State	Degree of Shortage AI	Degree of Shortage II	# of IA teachers in your state	Approx. # of classes not held due to shortage of IA teachers	# of IA teachers produced by coll. & univ. in your state in 1978-79	# of IA teachers expected to be needed in 1979-80	Shortage of IA teachers expected in 1979-80	REMARKS
Alabama	-3	-5	185	0	34	10	0	
Alaska	-1		N/A	N/A	N/A	N/A	N/A	
Arizona	-3		795	100	42	825	20	
Arkansas	-1		120	10	30	125	15	
California	-1	-3	7024	225	148	125	100	
Colorado	-4	-5	1000 (est.)	0	100	75	0	
Connecticut	-3		1323	40	45	20	10	
Delaware	1		190	0	10	190	0	
Florida	-1	-3	1300	20	50	100	50	
Georgia	-4		385	100+	30	75	35	
Hawaii	0		220	0	10	-	0	
Idaho	-3		257	0	13	25	?	
Illinois	-4	-5	4730 (IAAME)	600	100	-	150	
Indiana	-6	3	2240	0	129	-	0	
Iowa	-4	-5	1062	23	47	30	30	
Kansas	-5	-6	1450	150	107	100	50	
Kentucky	-3		600	10	45	25	0	
Louisiana	-3		540	see remarks	85	95	105	35 labs closed
Maine	-3	-5	460	25	12	20	10	
Maryland	-8	-6	1053	35	50	42	21	
Massachusetts	-2	-6	2000	-	44	-	-	Has non-certified teachers, need power-energy, graphic arts, and electronics.
Michigan	-4	-5	3000	unknown	347	unknown	unknown	
Minnesota	-5	-5	1475	0	120	125	5	
Mississippi	-3	-4	275	75	45	30	10	
Missouri	-4		1252	375	90	100	60	
Montana	-4	-6	220	-	30	-	0	About 15/20 teachers hired without full credentials
Nebraska	-4	-6	856	20	45	10	25	
Nevada	-3		115	see remarks	0	-	10	Some classes cancelled no teachers
New Hampshire	-3		250	0	34	25	0	
New Jersey	-1		2815	0	230	230	0	
New Mexico	-2	-3	305	35	20	18	0	
New York	-2		4795	unknown	205	100	50	
North Carolina	-5		314	11 programs	80	21	16	
North Dakota	-4		194	unknown	20	22	10	
Ohio	-4	-3	2875	25	225	275	50	
Oklahoma	-4		466	unknown	80	100	20	
Oregon	-3	-3	800	10	25	70+	15	
Pennsylvania	-1	-5	5632	N/A	N/A	N/A	N/A	

Table 11. The States of Industrial Arts Teacher Demand and Supply
continued

State	Degree of Shortage A1	A2	# of IA teachers in your state	Approx. # of classes not held due to shortage of IA teachers	# of IA teachers produced by coll. & univ. in your state in 1978-79	# of IA teachers expected to be needed in 1979-80	Shortage of IA teachers expected in 1979-80	REMARKS
Puerto Rico			345	9	17	475	35	4 secondary (rural), 5 junior high (urban) classes not held
Rhode Island	-3		340	8	27	20	12	
South Carolina	-4		214	unknown	24	250	34	
South Dakota	-4	-5	235	see remarks	24	-	3	6 labs closed - 3 schools still looking for teachers
Tennessee	-4	-5	450	12	50	50	20	
Texas	-4	-5	2200	-	190	-	300	115 labs closed - 15,000 students denied ind. arts
Utah	-1	-5	434	0	44	22	0	
Vermont	-1		202	0	3	0	0	
Virginia	-4	-5	1112	15	69	176	90	
Washington	-3	-5	1290	-	80	100	10	Non-IA teachers fill in
West Virginia	-3	-3	310	24 openings	92		-	
Wisconsin	-3	-5	2100	N/A	230	N/A	N/A	
Wyoming	-4	-5	245	3	15	20	4	
Totals			58,862	3823	3732	4219	1391	

Note: Comparisons between Smith and ASCUS ratings were made on the following bases:

Smith	ASCUS
5	= 1 = considerable surplus of teachers
3	= 2 = surplus
0	= 3 = balance of supply and demand
-3	= 4 = shortage
-5	= 5 = considerable shortage of teachers

A: Combined shortage rating of placement directors and state supervisors

B: ASCUS supply demand report

Sources:
1. Donald F. Smith, "Serious Teacher Shortages Exist in Industrial Arts" IEJ, March 1979.
2. ASCUS Supply-Demand for Teachers by Subject for Selected States as Perceived by Placement Directors, 1979.
3. All data except columns A1 and A2 from Max Miller, "Industrial Arts Teacher - Supply & Demand", Industrial Education, January 1980, pages 22-24.

Table II. Rank of Demand for Teachers by Subjects, as Perceived by Teacher Placement Officers

	1981	1980	1979	1978	1976
Mathematics	1	1	1	3	4
Industrial Arts	2	2	1	2	1
Science-Physics	3	7	7	9	3
Special Education -LD	4	4	5	4	4
Vocational Agriculture	5	3	3	1	2
Science Chemistry	6	11	11	6	8
Science General	7	13	12	-	-
Speech Correction	8	12	13	10	9
Special Educ. PSA	9	5	10	7	11
Special Educ. Reading	10	8	9	5	6

SOURCE:

Association for School, College and University Staffing; Relative Demand by Teaching Area and Year; ASCUS Annual, January, 1981.

Table II. Vacant Industrial Arts Positions from 1976 to 1981 by State

State (Total Number)	Number of Vacancies 76-77 (N=98)	77-78 (N=41)	78-79 (N=44)	79-80 (N=43)	80-81 (N=38)
Alabama	0	0	0	0	20
Arizona	10	0	11	-	45
Arkansas	3	5	1	4	-
California	84	41	45	124	138
Colorado	0	0	0	-	-
Connecticut	-	-	-	25	-
Delaware	0	1	1	0	-
Dist. of Col.	5	3	0	34	-
Florida	0	10	25	25	30
Georgia	40	30	40	25	30
Hawaii	-	1	0	1	0
Idaho	0	0	0	0	0
Illinois	-	-	110	100	-
Indiana	89	75	80	0	1
Iowa	16	22	29	39	24
Kentucky	4	4	0	4	0
Louisiana	35	50	75	50	77
Maine	-	-	-	14	12
Maryland	14	17	20	5	9
Massachusetts	-	-	-	-	0
Michigan	-	-	-	-	0
Minnesota	0	0	5	5	0
Mississippi	10	12	14	0	0
Missouri	42	47	55	23	25
Montana	2	2	3	2	2
Nebraska	4	6	13	24	37
Nevada	0	0	0	-	15
New Hampshire	-	-	-	2	0
New Jersey	0	0	0	35	22
New Mexico	5	6	6	7	0
New York	40	50	40	-	50
North Carolina	12	16	19	0	0
North Dakota	4	6	6	10	5

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Table XI. Vacant Industrial Arts Positions from 1976 to 1981 by State continued

State (Total Number)	Number of Vacancies 76-77 (N=40)	77-78 (N=41)	78-79 (N=44)	79-80 (N=43)	80-81 (N=38)
Ohio	0	15	20	30	109
Oklahoma	5	8	10	10	-
Oregon	3	8	3	8	9
Pennsylvania	30	40	30	45	-
Puerto Rico	9	8	11	0	81
South Dakota	-	-	-	22	14
Tennessee	10	12	4	4	8
Texas	265	270	290	300	300
Utah	0	0	0	1	0
Vermont	0	0	0	0	1
Virgin Islands	12	10	8	1	4
Virginia	12	20	24	15	10
Washington	0	0	0	2	-
West Virginia	-	-	18	20	-
Wisconsin	0	10	10	90	-
Wyoming	3	5	7	3	0
Totals	812	838	1,077	1,179	1,186

Source:

Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 1, p. 6.

Table 36. Industrial Arts Teacher Education: Numbers of Institutions, Faculty, and Degree Production 1980-81

State	Number of Institutions	Number of Faculty Involved	Degrees Awarded (Industrial Arts Only)		
			B	M	Sp & Doc
Alabama	3	31	10	5	0
Alaska	-	-	-	-	-
Arizona	2	27	46	10	0
Arkansas	1	7	-	-	-
California	9	117	416	40	-
Colorado	3	17	32	13	4
Connecticut	1	23	44	26	-
Delaware	1	2	0	9	-
Florida	3	23	19	6	-
Georgia	4	17	26	7	2
Hawaii	2	10	15	2	-
Illinois	2	21	23	14	2
Indiana	1	32	27	24	0
Iowa	3	29	45	5	-
Kansas	5	50	67	8	-
Kentucky	5	50	60	17	-
Louisiana	6	46	17	1	-
Maine	2	12	30	-	-
Maryland	1	17	15	3	3
Massachusetts	1	20	67	-	-
Michigan	3	30	84	22	-
Minnesota	2	24	29	31	-
Mississippi	5	40	33	8	-
Missouri	6	74	241	41	3
Montana	1	10	-	-	-
Nebraska	4	22	32	10	-
New Hampshire	1	13	18	-	-
New Jersey	2	27	30	-	-
New Mexico	1	8	13	8	-
New York	4	78	260	55	2
North Carolina	5	35	135	10	1

Table 34, continued — Industrial Arts Teacher Education: Institution, Faculty, and Degree Production 1980-81

State	Number of Institutions	Number of Faculty Involved	Degrees Awarded (Industrial Arts Only) B	M	Sp & Doc
Ohio	4	46	113	27	-
Oklahoma	7	43	96	17	-
Oregon	1	7	19	11	0
Pennsylvania	5	59	194	38	-
Rhode Island	1	6	17	-	-
South Carolina	1	11	21	-	-
South Dakota	3	13	44	4	-
Tennessee	7	52	36	31	3
Texas	8	55	114	18	5
Utah	3	38	38	5	-
Virginia	3	29	49	5	2
Washington	2	23	4	-	-
West Virginia	2	26	80	-	-
Wisconsin	1	52	99	23	5
Wyoming	1	7	-	-	-
Total for 45 states	139	1,383	2,906	557	32

Source: Industrial Teacher Directory: 1981-82, 1981.

Note: Only statistics specifically identified with Industrial Arts designations are listed. Only responding states shown

Table IX. Bachelors Degrees Awarded in Industrial Arts With Teaching Certification from 1979-80, by Sex

State (Total Number)	Male (N=33)	Female (N=33)	Total (N=37)	Total IA Bachelor Degrees Awarded in State[1]
Alabama	30	6	36	43
Alaska	0	0	0	0
Arizona	-	-	-	-
Arkansas	-	-	-	-
California	78	13	91	419
Colorado	-	-	-	-
Connecticut	-	-	-	-
Delaware	-	-	-	-
Dist. of Col.	-	-	-	-
Florida	-	-	52	23
Georgia	26	4	30	22
Guam	-	-	-	-
Hawaii	8	1	9	17
Idaho	12	0	12	11
Illinois	-	-	-	-
Indiana	78	1	79	89
Iowa	34	2	36	112
Kansas	-	-	-	-
Kentucky	31	1	32	97
Louisiana	46	1	47	10
Maine	29	0	29	28
Maryland	19	1	20	27
Massachusetts	87	3	90	96
Michigan	-	-	-	-
Minnesota	90	5	85	120
Mississippi	38	2	40	45
Missouri	80	1	81	90
Montana	35	0	35	26
Nebraska	38	3	41	57
Nevada	-	-	-	0
New Hampshire	-	-	-	-
New Jersey	73	7	80	203
New Mexico	17	0	17	34
New York	240	20	260	331
North Carolina	28	16	44	134
North Dakota	11	0	11	26

continued

Table 33. continued — Bachelors Degrees Awarded in Industrial Arts With Teaching Certification from 1979-80, By Sex

State (Total Number)	Male (N=33)	Female (N=33)	Total (N=37)	Total IA Bachelor Degrees Awarded in State (2)	
Ohio	-	-	141	217	-
Oklahoma	-	-	-	-	144
Oregon	28	1	29	21	-
Pennsylvania	193	6	199	181	-
Puerto Rico	13	1	14	45	-
Rhode Island	-	-	-	-	17
South Carolina	-	-	-	-	28
South Dakota	-	-	22	41	-
Tennessee	45	2	47	91	-
Texas	-	-	180	273	-
Utah	56	0	56	43	-
Vermont	6	0	6	9	-
Virgin Islands	0	0	0	0	0
Virginia	60	4	64	65	-
Washington	-	-	-	-	35
West Virginia	-	-	-	-	20
Wisconsin	-	-	-	-	179
Wyoming	16	0	16	12	-
Totals	1,683	131	2,249	3,071 a	4,292

Sources:

1. Report of Industrial Arts State and Territorial Survey Data for 1980-81, March 1982, Table 3, p. 9.

2. Selected from Industrial Teacher Education Directory, 1980-81

Note:

a. Represents sum of Industrial Arts Bachelor production for states reporting at left. 4,202 represents 1979-80 IA degrees produced in all states.

Table 36. Public and Private Elementary and Secondary Teacher Layoffs and Shortages : 1979

	Employed Teachers	Layoffs	Shortages
TOTAL	2,421,000	23,000	10,700
Indus. Arts	42,000	680	500
% of Total	1.5	1.7	4.7
Vocational Ed	104,000	660	300
%	3.8	2.5	2.8

Source:

Survey of Teacher Demands and Shortages. Unpublished Preliminary Tabulations. Cited in The Condition of Education, 1981. Table 29, p. 74.

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Chairman PERKINS. The next witness is Dr. Jim Brown. Go ahead.

STATEMENT OF JIM BROWN, PRESIDENT-ELECT, NATIONAL ASSOCIATION OF VOCATIONAL EDUCATION SPECIAL NEEDS PERSONNEL, UNIVERSITY OF MINNESOTA

Mr. BROWN. Thank you, Mr. Chairman.

I am Jim Brown, assistant professor of vocational and technical education at the University of Minnesota, and I am currently president-elect of the National Association of Vocational Education Special Needs Personnel, which is an affiliate with 1,700 members within the American Vocational Association.

I have also submitted a formal written statement for your information, but I would like to review the following key points at this time.

Since 1968, vocational education, has become more responsive and effective, serving handicapped, disadvantaged, and limited English-proficient population. The number of handicapped students served in vocational education has increased by almost 80 percent between 1972-73 and 1979-80. There has been a major shift from separate special programs to mainstreamed programs.

The National Center for Educational Statistics has reported that during 1979-80 over 2.5 million special needs students, both young and adult, were served by vocational education programs. That represents over 15 percent of vocational education's total enrollment.

However, we also acknowledge that problems do continue to remain and do in fact deserve our attention.

I present the following points: Handicapped, disadvantaged and limited English-proficient citizens represent a significant portion of America's population. Their number is far greater than the 2.5 million people that we are now serving in vocational education. As many as 25 to 30 percent of school-age individuals and young adults may be special needs persons who could in fact benefit from vocational education. Unfortunately, many of these poeple are currently suffering from very high unemployment rates.

For example, among inner city minority youth, up to 46 percent of those people are typically unemployed.

The failure to adequately fund and to deliver vocational special needs programs will in fact deny these special needs learners their rights and opportunities to receive training and to become meaningfully trained citizens. Thus they become contributing members of our society.

It would seem to be a very false economy at this point to decrease special needs program funding for short-term gains and incur major long-term expenses required by the variety of long-term, very expensive social services.

For example, it now costs us over $13,000 per year to incarcerate an adult. It costs over $40,000 a year to detain a juvenile in a juvenile ward. Obviously the cost comparisons between special needs programs in the short-run and long-term programs are in conflict.

My recommendation on this point is that future vocational education must continue to mandate programs and services for a variety of special needs, youth and adult.

The special set-aside programs for targeted populations need to be fully funded and maintained to assure vocational education for special needs populations. The track record in the past, it has been clear, without the mandate, the service does not happen.

The next major point relates to fiscal problems. Public Law 94-482 assures that 30 percent of our basic State grants must be set aside for handicapped, limited English-proficient and disadvantaged categories. The excess cost principle in this legislation has been the focus of much discussion and some States have even gone so far as to claim that such costs are very difficult to determine and to match in terms of tight local funding.

However, we recommend that the concept of excess cost is fundamentally effective, desirable, and viable. However, we do think that the legislation should, when revised, deal with developing more acceptable, more easily implemented matching and excess cost processes. That should be explored in order to allow the State means with which they can more effectively comply with these requirements while at the same time still being assured of service for special needs populations.

In addition to Public Law 94-482, there are a variety of other pieces of legislation which all focus at least in part on career-related needs of special populations, such as the Education for All Handicapped Children Act of 1975, Comprehensive Employment and Training Act of 1978, title I of ESEA.

With declining resources and our increasing concern for cost effectiveness and maximizing opportunity, we suggest that close cooperation among related agencies and programs is highly desirable and hopefully unavoidable. Therefore, I recommend that you consider in the new vocational legislation ways of providing provisions for establishing more specific and extensive cooperation among agencies serving the handicapped, disadvantaged, and limited English-proficient, in addition to the bilingual, migrant, and vocational rehabilitation CETA populations.

Funds from other legislation hopefuly can be earmarked, such as to support career exploration, prevocational and vocational education programs for the special needs populations.

And we suggest that it would be very beneficial to provide and place a very high priority on coordinated planning efforts at the local and State levels, not only at the Federal level.

In the area of program improvement, we believe it has been established that vocational education must be capable of keeping up-to-date with rapid changes occurring in our society, as Mr. Dyrenfurth mentioned earlier. We must have and continue to have

modern equipment, properly trained staff, and must be capable and in fact of doing effective evaluation and updating processes.

It seems apparent many States are failing to implement projects to improve services directly and indirectly to special populations. For example, in 1981 the National Institute for Education found that local special needs programs evaluations are too infrequent and do not come up to the quality of evaluations which are conducted in other programs. Therefore, we recommend the following for your consideration: the expansion of State and local efforts to improve programs for special needs populations, the establishment of more extensive and effective evaluation programs and services; the development of staff and updating activities.

Those are very much needed, as well as more effective and extensive research and curriculum development.

Effective programs and practices must be shared and disseminated more effectively and thoroughly than they are currently. Perhaps a national diffusion network, a more effective network of national leadership, would help meet this diffusion.

Finally, teacher educators, like everyone else, need the funds to develop new and more effective, improved staff development processes and activities.

A vocational philosopher by the name of Charles Prosser over 40 years ago was on the right track when he developed this theorem for vocational education. He established a perspective many years ago which can help us develop a philosophy for serving special needs learners.

He said in his language of the day that vocational education will be effective in proportion as it enables individuals to capitalize on their interests, aptitudes, and intrinisic intelligence to their highest degree.

He also said that vocational education will be effective in terms of delivering social services in the proportion to its meeting specific training needs of any group in the way they need it, so that they can profit from the instruction.

He said that vocational education will be socially efficient in proportion to its methods of instruction and its personal relations with learners if it takes into consideration the particular characterstics of those particular groups.

Finally, he said that the administration of vocational education will only be efficient in proportion to its elasticity and fluidity rather than its rigidity and standardization.

Obviously 40 years later we are still talking the same story, but we are falling far short of living up to the goals established in an earlier generation.

My final comments: I believe sufficient Federal dollars are definitely needed to act as a catalyst to generate continued activities at the State and local levels. In recent years the State and local vocational education has begun to evolve past mere tokenism. That is in most part due to your benefits through 94-482. We believe Federal legislative support must continue to provide substantive direction and levels of support for special populations, that the Federal, State and local partnership must be sustained, the long-term alternatives in terms of social costs, and the impact in terms of produc-

tivity in these times is unacceptable and makes unreasonable demands on our resources.

Thank you.

Chairman PERKINS. Thank you very much.

[Prepared statement of James Brown follows:]

PREPARED STATEMENT OF DR. JAMES BROWN, PRESIDENT-ELECT, NATIONAL ASSOCIATION OF VOCATIONAL EDUCATION SPECIAL NEEDS PERSONNEL

Mr Chairman, Members of the Committee:

I am James Brown, Assistant Professor of Vocational-Technical Education at the University of Minnesota and President-elect of the National Association of Vocational Education Special Needs Personnel, which is a 1700 member affiliated organization of the American Vocational Association. I sincerely appreciate the opportunity to share with you and members of the Committee the current major concerns that our organization and the American Vocational Association have relative to serving special needs youth and adults in vocational education.

Since the enactment of the Vocational Education Act of 1963 vocational educators have been formally engaged in a major effort to improve and expand job training programs for the handicapped, disadvantaged, and limited English speaking citizens of our nation. Throughout the 1960s and 1970s, the number of special needs individuals enrolling in vocational education programs has increased steadily. In school year 1979-80, the National Center for Education Statistics reports that a total of 2,512,000 special needs youth and adults were served in vocational education programs. These individuals comprised 15.3% of the total enrollment in vocational programs.

The recently completed Vocational Education Study, which was conducted by the National Institute of Education, notes that the special needs set-aside provisions of P.L. 94-482 constitute "a sound approach to attaining greater equality of opportunity (for special needs populations) in vocational education." Several other studies and position statements on the reauthorization of the VEA have noted the critical importance of maintaining and refining set-asides for national priority populations, and thereby ensuring that the individuals of our nation who face the most difficult barriers in obtaining employment receive appropriate and expanded opportunities

to participate in vocational education programs.

Despite the growing efforts of state and local vocational education programs to serve these individuals several highly significant issues and problems remain. My remarks will focus upon four specific issues that deserve attention in the reauthorization of Title II (Vocational Education) of the Education Amendments of 1976 (P.L. 94-482).

I have also attached to my prepared statement a Fact Sheet which briefly describes the special needs students being served and the services provided in vocational education programs throughout the nation. This Fact Sheet also identifies the impact of the recent and proposed budget in the Federal budget for vocational education.

Unserved and Underserved Special Needs Populations

The handicapped, disadvantaged, and limited English speaking citizens of our nation represent a significant segment of our population. When one considers the special vocational education needs of disabled workers, the incarcerated individuals, urban and rural disadvantaged youth, native Americans, school-age handicapped youth, displaced homemakers, and others, it is clear that this population, which needs vocational education, far exceeds the 2.5 million individuals that are served annually. While specific incidence data have not been compiled for all groups, the special needs population needing vocational education may be as high as 25%--30% of the school-age and young adult population. The high unemployment rates we currently find among these populations (as high as 46% for minority, inner city youth) demand that comprehensive and effective vocational programs and support services be available to serve their employment-related needs.

The Civil Rights Act of 1964 and other subsequent regulations and litigation have all assured special groups of access to and equality of opportunity in vocational education. Individuals with special educational needs have a right to participate fully and effectively in our publicly-supported vocational education programsat the secondary, post-secondary, and adult levels. Failure to provide and fully fund vocational-special needs programs will result in the denial of critical support services, training programs, and more importantly, the rights of special needs learners to acquire the skills and knowledge they need to live and work independent of the social welfare system of our nation.

Recommendation: To assure access and equality of educational opportunities it is imperative that subsequent vocational education legislation continue to mandate programs and services to meet the needs of <u>all</u> special needs

youth and adults. Special set-aside programs for targeted populations must be maintained and fully funded to assist state and local vocational education systems in serving special needs populations.

Fiscal Problems

The present Federal special needs set-asides in P.L. 94-482 require that 30% of the basic state grant be set-aside for handicapped, disadvantaged, and limited English proficient populations. These funds can only be extended for the "excess costs" involved in serving these youth, and must be matched on a 50-50 basis with state and local funds. The NIE (1981) report notes that:

> The excess costs requirements impose recordkeeping burdens that many localities find difficult to shoulder. Smaller and rural districts are especially hard pressed to account for excess costs and are therefore likely to be deterred from applying for and receiving funds... (p. xxxix).

The NIE Report also acknowledges that:

> To repeal the excess cost requirement would mean that VEA funds could be used to supplant State and local funds that vocational education students with special needs are as entitled to receive as their more priviledged peers . . . . If set-aside funds are to guarantee effective equal opportunity for handicapped, disadvantaged, and limited English-speaking individuals, then some application of the principle of excess costs is necessary (p. VIII-41).

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Prior to the 1976 Amendments, the state and local contributions to the categorial programs for special needs students were extremely low, when compared to their contributions to the overall vocational education program. In 1974 and 1976 the Olympus Research Corporation estimated the average expenditure ratios (state/local funds to Federal funds) to be 2.2 to 1 for the disadvantaged and 1.1 to 1 for the handicapped. Clearly, the 50-50 matching requirement in the VEA of 1976 was an effort to expand the fiscal commitments of states and local communities to serving special needs populations.

In response to the matching requirements a variety of different approaches were used by states to assure the statewide match for both national priority programs. A number of states, because of limited state educational funds, chose to pass the matching requirement on to local districts totally. Other states were able to ear-mark state funds for special education and education of the disadvantaged to be used for the match. After two years several states were still concerned about the difficulties created by the match. As a result the Congress enacted P.L. 96-46 which included a technical amendment that would allow individual states to obtain a waiver to the 50-50 match. The proposed regulations for granting waivers were published on April, 20, 1980. Final regulations for P.L. 96-46 have yet to be published. It should also be noted that clear and definitive guidance from the Office of Adult and Vocational Education regarding interpretation of the match requirements was limited following the publication of the final rules for implementation of P.L. 94-482 in October, 1977.

While concern continues to be expressed regarding the matching requirement, the most recent data provided by the NCES's Vocational Education Data System and the Office of Vocational and Adult Education suggest that

only one (1) state was unable to meet the match requirement in FY 1978.

Recommendations: (1) The excess cost principle has proven to be functional and effective in assuring that the additional services needed by special needs individuals in vocational programs are provided. The principle of expending Federal funds for the costs of those additional services required by special needs students to succeed in vocational education should be retained in future legislation.

(2) Due to declining state and local educational revenues, the forthcoming legislation should include provisions for granting waivers to states who are unable to meet the 50 - 50 matching requirement for national priority programs. Such waivers should be designed to insure that rural states, as well as states with a severely depressed economy, are able to serve special needs students to the maximum extent possible with a combination of categorial Federal, state, and local funds.

Collaboration

In addition to the VEA, various pieces of federal legislation focus specifically upon providing employment-related education to special needs populations. These pieces of legislation include: the Education of All Handicapped Children Act of 1975 (P.L. 94-142), the Comprehensive Employment and Training Act of 1978 (P.L. 95-524), and Title I of the ESEA, (P.L. 95-561). Each of these pieces of legislation focus, at least in part, upon the career development and employment needs of special needs populations. In a period of declining public resources and revenues, close cooperation among the agencies and programs is needed to make them cost-effective and maximally efficient. However, research studies (Phelps, 1981) continue to suggest that effective and systematic interagency planning and coordination is deficient at both the state and local levels.

Recommendation: Vocational education legislation must include provisions for collaborating with other agencies toward serving commonly identified special population groups. A common definition of special populations should be developed that is consistent with definitions in related pieces of legislation. Strong consideration should be given to ear-marking funds from other pieces of federal legislation (e.g. education of the handicapped, vocational rehabilitation, bilingual education, Title I of the ESEA, and DOL legislation) to support career exploration, prevocational, or related vocational education programs and services for LEP, handicapped, and disadvantaged individuals. In addition to fiscal provisions, Federal legislation should place a high priority upon coordinated program planning at both the local and state levels.

Program Improvement

To be responsive to technological, economic, and social changes in the workplace, vocational education programs must have a capacity for evalua-

tion, planning, growth, and improvement. The job training programs we provide to special students must: use the most up-to-date equipment, employ staff who are skilled in working with special needs learners, and be evaluated and strengthened on a regular basis.

While states are encouraged to use their VEA funds for such program improvement activities as curriculum development, research, innovative and exemplary programs, and teacher training, the NIE study revealed that in FY 1979 only about half of the states sponsored improvement projects that focused on special needs populations. The NIE study (1981) also noted that local program evaluation efforts regarding services to special needs populations were conducted only infrequently, in comparison to other forms of program evaluation.

Recommendation: Continued and expanded attention must be given by states and localities to improving and expanding vocational education programs for special needs populations. Efforts to evaluate existing programs and support services are needed. New programs and resources are also needed to assess the specific vocational needs of special needs individuals. To keep programs abreast of technological and occupational changes, research, curriculum development, and staff development activities must be conducted. Effective special needs programs and practices need to be disseminated via national networks and state administration leadership. Universities and colleges need adequate funding to prepare or retrain teachers, counselors, and administrators to work with special needs populations in vocational classrooms.

Summary

The VEA of 1963 and its 1976 Amendments continue to provide an effective framework for assuring equal access and equity for special needs populations. Vocational education has become a viable and important vehicle for increasing the employability of handicapped, disadvantaged, and limited English proficient youth of our nation.

The legislation which has been introduced in the Senate by Mr. Hatch of Utah and endorsed by the Administration represents a severe and unacceptable reduction of the Federal role in vocational education. The Federal presence and interest in vocational education was created in 1917. Vocational education has a long and distinguished record of meeting the job training needs of our nation, and the training needs of special needs youth in particular. Although the proposed bill (S.2325) indicates that a purpose of the legislation is to serve special populations, there are no specific provisions (such as a set-aside or entitlement program) that would assure that services and programs are provided to the individuals who will profit the most from vocational education. In its present form this legislation will negate or significantly diminish our ability to fulfill the promises which the Civil Rights Act of 1964 and other equal opportunity legislation of the 1970s set forth.

Thank you for the opportunity to provide this statement, and I would be pleased to respond to any questions.

FACT SHEET

Serving Special Needs Populations in Vocational Education

American Vocational Association
May 17, 1982

Enrollment

Over the past five years there have been significant increases in the enrollment of disadvantaged, handicapped and limited English proficient (LEP) youth and adults in vocational education. From 1972-73 to 1979-80, the enrollment of handicapped youth increased from 222,713 to 400,575--89.9%. During the same 7 year period, the enrollment of disadvantaged students increased by 64.5%. Recently, increases have also been noted in the enrollment of special needs adults at the post-secondary level. Overall, special needs youth comprised 15.3% of the students enrolled in vocational education in 1979-80. (see table on reverse side.)

Programs

As Table 1 indicates, special populations are served in all of the major vocational program areas. Nearly 70% are served in regular vocational classes and are receiving support services in the form of resourse teacher assistance, paraprofessional aides, specialized materials (e.g. brailed or native language texts), modified equipment, extended class periods, remedial services, and vocational assessment services. The programs and services are individually tailored to meet each student's specific vocational education needs. For those students unable to participate in regular classes (such as the severely handicapped or incarcerated), special vocational programs are provided that enable them to attain saleable job skills.

Impact of Budget Cuts

The FY 1982 budget cuts have severely reduced the program options and support services available to special needs populations. For example, in Illinois the cut for FY 1982 eliminated a vocational program providing services to 550 native American, LEP, Spanish, and Korean students in metropolitan Chicago. The 25% reduction in funds for special programs for the disadvantaged (Section 140) led to the termination of numerous programs in the depressed communities where high unemployment continues to exist. In addition to major cuts in programs and direct services, even more drastic cuts were noted in funding for special needs inservice teacher education programs, curriculum development, and innovative programs.

Hatch Bill (S.2329)

The proposed Hatch legislation would even more severely reduce vocational programs and services for special needs populations.

1. While one of the stated purposes in the bill is to provide equal opportunity in vocational education for special needs students, there is no provision for funding this purpose.

2. The proposed appropriation level of $500 million will require states to reduce services for special needs groups by 40-60% over present levels beginning in FY 1983. In Maryland the number of Support Service Teams, which currently serve 4,600 special needs students in vocational programs, would be reduced by 75-90%.

3. Without effective and adequately funded vocational education programs we are likely to continue with extremely high unemployment rates for disadvantaged youth (46% in March, 1982) and other special needs populations.

1979-80 Enrollments of Special Needs Students

in Vocational Education Programs[1]

Vocational Program	Handicapped	LEP	Disadvantaged	% of Total Enrollment
Agriculture	23546	2689	99368	14.3%
Distribution	12204	2974	91453	11.1%
Health Occupations	9468	2596	85132	11.6%
Occupational Home Economics	22627	2959	91221	21.2%
Office Occupations	46341	17320	419700	14.2%
Technical	5590	3244	55506	12.9%
Trade and Industrial	82738	13736	396119	15.3%
Other NEC	96312	7032	287878	32.9%
Consumer and Homemaking	74587	17521	431587	15.5%
Industrial Arts	27162	2660	80979	7.2%
TOTAL	400575	72731	2038943	
% of Total Enrollment[2]	2.43	0.44	12.39	15.27%

[1]Table compiled from preliminary data provided by the National Center for Education Statistics, April, 1982.

[2]The total enrollment in vocational education programs in FY 1980 was 16,453,006.

Chairman PERKINS. Our next witness is Dr. Robison of Missouri.

STATEMENT OF ROBERT ROBISON, STATE TRADE AND INDUSTRIES SUPERVISOR, STATE DEPARTMENT OF EDUCATION, MISSOURI

Mr. ROBISON. Thank you, Mr. Chairman.

I am Robert Robison, State supervisor of trade, industrial education, from the State of Missouri, and I am speaking on behalf of the trade and industrial education division of the American Vocational Association.

I am pleased to have this opportunity to speak on behalf of trade and industrial education as it relates to the administration's proposal for funding vocational education in fiscal year 1983.

We believe that trade and industrial education has a major role to play in the realization of our Nation's economic stability.

Machinists Union President William Winpisinger bluntly stated:

> The most highly industrialized nation on Earth is in danger of becoming a nation of industrial illiterates who do not know how to stop a running toilet, replace a burned-out fuse, or identify anything on a car more complicated than the gas-tank cap.

We believe that trade and industrial education is a vital link and plays an important role in training skilled workers. At this time many of our skilled journeymen are retiring and one-third of today's journeymen are 55 years of age or older. In fact, one-third of those are 55 or older and will be retiring.

Most of these journeymen learned their role during World War II; vocational education played a major role in training during those years.

Trade and industrial education in the United States is a program of vocational education designed to train individuals to repair your automobile, build your home and factories, repair your appliances, maintain your transportation system, repair and maintain your electronic equipment, and operate the many tools and machines used in today's industries.

I submitted a more specific list of occupations.

Many States train as many as 200 different trade skill occupational areas. People enrolled in trade and industrial education are at the high school level, posthigh, and adult individuals desiring to enter the labor market.

These programs also serve individuals in upgrading skills to meet new technologies and also retrain people for new technologies and new jobs. This is going to be increasingly important with the high unemployment rate which we presently have today. Also, a number of joint apprenticeship committees look to vocational education for training their apprentices. These programs are playing an increasing role in the economic development of States which have, in cooperation with industry, developed specific customized programs to assist industry in plant expansions and new startups.

Trade and industrial programs are located in 10,851 general high schools, 225 vocational high schools, 1,395 area vocational centers, 720 community colleges, 162 technical institutes, 504 area vocational schools, 308 specialized postsecondary schools. There are also

programs of less than the baccalaureate level in some 4-year colleges.

These schools enrolled 3,215,987 persons in this Nation during the 1979–80 school year. Of this number, 1,416,230 were high school students and 1,799,757 were posthigh and adult students. In addition, 142,406 were involved in apprenticeship training, 149,373 students were trained on the job through cooperative education programs. Of the number enrolled in trade and industrial education programs, 3,215,987, there were 448,822 program completers; 270,340 were at the high school level and 93,933 were at the postsecondary level, and 84,549 at the adult level.

As the pace of technological changes accelerates, employers are becoming increasingly concerned about the availability of trade and industrial education. They are finding a smaller pool of skilled workers to meet their escalating needs.

A recent economic impact modeling system prepared by a senior economist in the Office of the Secretary of Defense identified projected needs for skilled workers and all industries through 1987. An analysis of 41 occupations requiring vocational and technical training shows that there will be a need for almost 10 million new workers within the next 5 years in these occupations alone. These figures do not take into account the number of additional workers that will be required to replace workers who retire or for some other reason leave the field.

Congress has provided substantial tax incentives to industries to retool and expand their capital investment. As a result, the level of technology in American industries will advance significantly during the next decade. Federal initiatives in defense will vastly expand and change worker requirements in the area as well. Without up-to-date trade and industrial programs to train and retrain the required workers, the mismatch described above will reach crisis proportions.

Employers are increasingly viewing trade and industrial education as a way to relieve their work force shortages or to retrain workers to adapt to new technology. Such is happening in Missouri today.

General Motors is constructing a new modern auto assembly plant in Wentzville, Mo., with projected employment of 6,535 by 1984. General Motors will require approximately 400 individuals to be trained in new high technology skills necessary to install and maintain the automated equipment which will perform much of the work at the Wentzville facility.

This training will be accomplished by retraining individuals with journeyman status, or equivalent experience, in specific skill areas such as millwright, pipefitter, electrician, powerhouse mechanic, machinist, et cetera, and cross training those individuals in a number of different technical areas. The result will be technicians trained in a variety of skills who will be able to install and maintain robotic equipment. The training will require a minimum of 1,420 instructional hours. General Motors estimates that to train the total plant work force the cost will be approximately $13 million.

General Motors is working with the Missouri Trade and Industrial Education System to gain help in training these workers. Gener-

al Motors has also asked for this same type of assistance in other States, such as Ohio, Oklahoma, and Michigan.

Presently 21 State vocational education programs are providing training to enable at least 100,000 persons annually to fill jobs in new or expanding industries. These industries rely on the vocational institution to develop the curriculum, provide the training, and sometimes even to recruit and select the trainees.

Many States, however, will have to reduce or eliminate these special services to industries if Federal funds are cut. As these industries are forced to provide their own training, they will have to raise the cost of their products, sure to fuel inflation.

Among small businesses which employ close to two-thirds of the Nation's nongovernment work force, decreases in trade and industrial education programs offered through vocational education will be especially disastrous because they will not be able to mount their own programs of training.

Jack Rawson is the manufacturing supervisor at the Preproduction Prototype Factory of General Dynamics Corp. in California. The California division develops highly sophisticated electronics parts for the Army and Navy defense systems. Mr. Rawson first became acquainted with trade and industrial education while serving as a judge on the California VICA machine shop contest. VICA [Vocational Industrial Clubs of America] is a vocational student organization for persons enrolled in trade and industrial education programs.

Mr. Rawson, hoping that the news of the superior quality of work from VICA members would get around to other departments, wrote an in-house memo summarizing what he had found. Among other things, he said:

> Dollar savings are reflected in lower cost of training: (a) instruction on machines is 100 hours less than other trainees with minimum experience; (b) scrap and rework is less than half that of other trainees; (c) they take more pride in their workmanship; (d) it is easier to motivate them; (e) they are making money for the company within 20 to 60 days (average is 10 to 12 weeks); (f) on an average, they stay with the company longer.

Mr. J. G. Vorhes, a vice president for General Motors, stated that after attending a skill contest where trade and industrial education students demonstrated their skills, he was impressed with VICA's purpose to prepare young people for the world of work. He also stated that General Motors believes that an investment in VICA is an investment in the future of General Motors.

For students with limited opportunities to receive trade and industrial training and job experience, VICA is a relevant and critically important part of their education.

Attached is a list of 238 investors in American's future through trade and industrial education. These investors believe that trade and industrial education and VICA are sources of qualified skilled workers in this Nation.

We believe that in this time of tight resources it is more important than ever to avoid costly duplication of training services by taking advantage of the major in-place programs our Nation has for preparing people for employment. We believe that partnerships between vocational education and private employers, the military, local, State, and Federal Governments must be expanded to enable

our Nation to meet national priorities involving worker education in the most efficient manner possible.

However, the national resource which trade and industrial education represents will lose its value if it is allowed to deteriorate due to lack of resources to keep programs up to date and ready to respond to changing demands of the workplace.

Since 1980, budgets proposed by the administration and enacted by Congress have called for dramatic cuts in trade and industrial education—vocational education—funding. From a high of $784 million in fiscal year 1980, funding was cut almost $100 million in fiscal year 1981 to $686 million. Another 4-percent cut was added in the fiscal year 1982 continuing resolutions passed by Congress. This reduced the funding to $63 million.

What kind of effect would that have across this country?

I can tell you in the State of Missouri there was no program growth in trade and industrial education last year. Also, there are 38 proposals, requests in my office right now for expansion of programs next year which are hanging fire as to whether or not he will be approved. This denied vocational training to 712 prospective students in the last year alone.

Other effects it has had, we lost 12 programs last year as a result of that cut, 11 administrators, and also the support of our teaching staff in in-service education, which is extremely important to trade and industrial education. Since many of our teachers come directly from the industry, it is nececssary to provide them a good in-service program to transport them from the workplace to the classroom.

Finally, I would like to say that during the last decade Congress has supported vocational education but there needs to be a continued Federal interest. Support has not kept pace with inflation and enrollment increases and demand for training, and in the past year a major reduction in the level of support has jeopardized the effectiveness of the Federal role.

Without a return at least to the level of support achieved in fiscal year 1980, trade and industrial education programs are in real jeopardy. These programs will not be able to keep pace with the ever-accelerating rate of change in the industrial community. Without the means of staying current, the valued trade and industrial education programs are in real jeopardy. These programs will not be able to keep pace with the ever-accelerating rate of change in the industrial community. Without the means of staying current, the value of trade and industrial education programs to future workers is questionable.

America cannot afford to let its major system for preparing people for employment deteriorate.

We urge you to support our request for $800 million in funding for fiscal year 1983. This is a reasonable, prudent level of support that will enable the Federal Government to maintain its important role in assuring that vocational education continues to serve the needs of our Nation's work force and industries who employ these workers.

Thank you.

Chairman PERKINS. Thank you very much.

[Prepared statement of Robert Robison follows:]

Prepared Statement of Dr. Robert Robison, State Supervisor of Trade and Industrial Education, State of Missouri

Mr. Chairman and Members of the Committees:

I am Robert Robison, State Supervisor of Trade and Industrial Education in the State of Missouri, and I am speaking on behalf of the Trade and Industrial Education Division of the American Vocational Association. I am pleased to have this opportunity to speak on behalf of Trade and Industrial Education as it relates to the administration's proposal for funding vocational education in fiscal year 1983.

We believe that Trade and Industrial Education has a major role to play in the realization of our nation's economic stability.

Machinists Union President William Winpisinger bluntly stated, "The most highly industrialized nation on earth is in danger of becoming a nation of industrial illiterates who do not know how to stop a running toilet, replace a burned-out fuse, or identify anything on a car more complicated than the gas-tank cap."

Trade and Industrial Education

We believe that Trade and Industrial Education is a vital link and plays an important role in training skilled workers. At this time, many of our skilled journeymen are retiring and 1/3 of today's journeymen are 55 years of age. I would like to point out that they learned their trade during World War II. Vocational education played a major role in training during those years.

Trade and Industrial Education in the United States is a program of vocational education designed to train individuals to repair your automobile, build your home and factories, repair your appliances, maintain your transportation system, repair and maintain your electronic equipment and operate the many tools and machines used in today's industries.

More specifically, Trade and Industrial Education trains individuals to be:

auto mechanics
muffler specialists
space shuttle builders
carpenters
plumbers
roofers
drafters
cosmetologists
law enforcement personnel
painters
watchmakers
electrical linepersons
sewage plant operators
body and fender specialists
tune-up specialists
sheet metal workers
bricklayers
electricians
surveyors
printers
food service personnel
upholsterers
paper hangers
jewelrymakers
truck drivers
machinists
brake specialists
aircraft maintenance mechanics
hydraulic specialists
cabinet-makers
cement finishers
appliance repair mechanics
barbers
fire fighters
welders
heavy equipment operators
diesel mechanics
tool and die makers
and many others

There are many new and emerging occupations such as occupations relating to energy that have not yet been named. Some states train in as many as 200 occupations.

Who Is Served

These programs serve high school, post high school and adult individuals desiring to enter the labor market. Also, these programs serve individuals who find it necessary to upgrade their skills to meet the demands of new technologies, and retrain due to our present high unemployment rate.

A number of the joint apprenticeship committees look to vocational education for training their apprentices. These programs are playing an increasing role in the economic development of states which have, in cooperation with industry, developed specific customized programs to assist industry in plant expansions and new start-ups.

Trade and industrial programs are located in 10,851 general high schools, 225 vocational high schools, 1395 area vocational centers, 720 community colleges, 162 technical institutes, 504 area vocational schools, 308 specialized postsecondary schools. There are also programs of less than the baccalaureate level in some four year colleges.

Number Served

These schools enrolled 3,215,987 persons in this nation during the 1979-80 school year. Of this number, 1,416,230 were high school students and 1,799,757 were post high school and adult students. In addition, 142,406 were involved in apprenticeship training, 149,373 students were trained on the job through cooperative education programs. Of the number enrolled in trade and industrial education programs (3,215,987), there were 448,822 program completers; 270,340 were at the high school level and 93,933 were at the postsecondary level, and 84,549 at the adult level.

As the pace of technological changes accelerates, employers are becoming increasingly concerned about the availability of Trade and Industrial Education. They are finding a smaller pool of skilled workers to meet their escalating needs.

Shortage of Workers

A recent Economic Impact Modeling System prepared by a senior economist in the office of the Secretary of Defense identified projected needs for skilled workers for defense and all industries through 1987. An analysis of 41 occupations requiring vocational and technical training shows that there will be a need for almost 10 million new workers within the next five years in these occupations alone. These figures do not take into account the number of additional workers that will be required to replace workers who retire or for some other reason lesve the field (See Chart 1 for data on the 41 occupations).

Congress has provided substantial tax incentives to industries to retool and expand their capital investment. As a result, the level of technology in American industries will advance significantly during the next decade. Federal

Chart 1

Projected Demand for Skilled Workers
by 1987

	Defense		All Industries	
	Total	New Workers*	Total	New Workers*
Clerical and Sales Workers	460,700	155,620	19,725,970	2,530,650
Service Workers	532,850	132,380	16,648,810	1,990,740
Other Operatives, excluding Transport	620,480	232,370	10,490,390	1,217,280
Stenos, Typists, & Secretaries	291,390	74,010	6,043,730	1,048,660
Construction Crafts Workers	151,450	52,580	4,384,190	618,280
Transport Operatives	152,360	53,820	4,003,490	442,730
Heavy Equipment Mechanics	87,220	31,820	1,281,720	281,020
Other Laborers	166,740	38,020	3,796,550	241,940
Automobile Mechanics	38,490	10,960	1,846,690	239,830
Machinery & Equipment Mechanics	78,360	18,240	1,152,490	175,270
Solderers, Welders and Cutters	81,900	24,900	889,480	153,150
Construction Workers	50,760	9,970	1,077,780	126,920
Other Engineering Technicians	93,829	22,320	784,930	125,380
Computer Specialists	71,290	14,140	547,040	90,130
Machinists & Apprentices	75,410	24,940	572,590	83,140
Office Machine Operators	50,230	11,430	864,020	58,510
Health Technicians	5,950	950	581,310	54,750
Tool & Die Makers & Apprentices	28,160	11,520	223,160	42,100
Electrical & Electronic Technicians	60,713	12,190	241,190	40,390

Source: Defense Economic Impact Modeling System
Tabulated by David Blond, Senior Economist,
Office of Secretary of Defense.

* Figures do not include required worker replacements.

Projected Demand for Skilled Workers by 1987, continued

	Defense		All Industries	
	Total	New Workers*	Total	New Workers*
Data Processing Machine Repair	6,780	3,370	115,880	37,520
Sheetmetal Workers & Apprentices	29,600	7,590	188,090	33,250
Aircraft Mechanics	60,810	15,330	159,790	30,690
Transportation & Public Util. Workers	25,670	6,700	589,640	28,590
Punch Stamping Press Operators	18,330	7,410	193,360	25,910
Lathe Milling Machine Operators	17,970	6,250	145,800	19,400
Aeronautical Technicians	4,970	1,590	116,560	18,650
Millwrights	6,460	2,420	107,870	15,420
Other Precision Machine Operators	10,770	3,630	88,110	14,680
Printing Trade Crafts Workers	15,850	2,510	410,890	9,810
Blacksmiths & Boilermakers	4,820	1,060	59,870	9,630
Furnace Tenders	6,670	2,960	82,600	8,820
Molders, Metal Apprentices	6,090	2,290	60,430	7,680
Grinding Machine Operators	13,240	4,520	132,240	7,610
Chemical Technicians	5,950	1,770	93,200	6,670
Industrial Engineering Technicians	6,150	1,710	34,160	6,010
Mechanical Engineering Technicians	5,010	1,260	21,550	4,060
Metal Platers	5,830	1,890	41,220	3,450
Drill Press Operatives	8,860	2,150	65,140	3,410
Rollers & Finishers, Metal	1,820	720	23,980	2,780
Forge & Hammer Operators	1,900	720	21,950	2,020

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initiatives in defense will vastly expand and change worker requirements in the area as well. Without up-to-date trade and industrial programs to train and retrain the required workers, the mismatch described above will reach crisis proportions.

Employers View Trade and Industrial Education

Employers are increasingly viewing trade and industrial education as a way to relieve their workforce shortages or to retrain workers to adapt to new technology. Such is happening in Missouri today. General Motors is constructing a new modern auto assembly plant in Wentzville, Missouri with projected employment of 6,535 by 1984. General Motors will require approximately 400 individuals to be trained in new "high technology" skills necessary to install and maintain the automated equipment which will perform much of the work at the Wentzville facility. This training will be accomplished by retraining individuals with journeyman status (or equivalent experience) in specific skill areas such as millwright, pipefitter, electrician, powerhouse mechanic, machinist, etc., and "cross training" those individuals in a number of different technical areas. The result will be technicians trained in a variety of skills who will be able to install and maintain robotic equipment. The training will require a minimum of 1,420 instructional hours. General Motors estimates that to train the total plant work force, the cost will be approximately $13 million.

General Motors is working with the Missouri Trade and Industrial Education System to gain help in training these workers. General Motors has also asked for this same type of assistance in other states such as Ohio, Oklahoma, and Michigan.

Economic Development

Presently 21 state vocational education programs are providing customized

training to enable at least 100,000 persons annually to fill jobs in new or expanding industries. These industries rely on the vocational institution to develop the curriculum, provide the training and sometimes even to recruit and select the trainees.

Problems with Federal Cuts

Many states, however, will have to reduce or eliminate these special services to industries if federal funds are cut. As these industries are forced to provide their own training, they will have to raise the cost of their products sure to fuel inflation.

Among small businesses which employ close to two-thirds of the nation's non-government workforce, decreases in trade and industrial education programs offered through vocational education will be especially disastrous because they will not be able to mount their own programs of training.

Jack Rawson is the manufacturing supervisor at the Preproduction Prototype Factory of General Dynamics Corporation in California. The California division develops highly sophisticated electronics parts for the army and navy defense systems. Mr. Rawson first became acquainted with trade and industrial education while serving as a judge on the California VICA Machine Shop contest. VICA (Vocational Industrial Clubs of America) is a vocational student organization for persons enrolled in trade and industrial education programs. Mr. Rawson, hoping that the news of the superior quality of work from VICA members would get around to other departments, wrote an in-house memo summarizing what he had found. Among other things, he said: "Dollar savings are reflected in lower cost of training: (a) Instruction on machines is 100 hours less than other trainees with minimum experience; (b) Scrap and rework is less than half that of other trainees; (c) They take more pride in their workmanship; (d) It is easier to motivate them; (e) They are making money for the company

within 20 to 60 days (average is 10 to 12 weeks); (f) On an average, they stay with the company longer."

Mr. J.G. Vorhes, a Vice-President for General Motors, stated that after attending a skill contest where trade and industrial education students (VICA) demonstrated their skills, he was impressed with VICA's purpose to prepare young people for the world of work. He also stated that General Motors believes that an investment in VICA is an investment in the future of General Motors.

For students with limited opportunities to receive trade and industrial training and job experience, VICA is a relevant and critically important part of their education.

Attached is a list of 238 investors in America's future through Trade and Industrial Education. These investors believe that Trade and Industrial Education and VICA are sources of qualified skilled workers in this nation.

How Budget Cuts Will Affect Program

We believe that in this time of tight resources, it is more important than ever to avoid costly duplication of training services by taking advantage of the major in-place programs our nation has for preparing people for employment. We believe that partnerships between vocational education and private employers, the military, local, state, and federal governments must be expanded to enable our nation to meet national priorities involving worker education in the most efficient manner possible.

However, the national resource which Trade and Industrial Education represents will lose its value if it is allowed to deteriorate due to lack of resources to keep programs up to date and ready to respond to changing demands of the workplace.

Since 1980, budgets proposed by the administration and enacted by Congress have called for dramatic cuts in Trade and Industrial Education (vocational education) funding. From a high of $784 million in FY 80, funding was cut almost $100 million in FY 81 to $686 million. Another 4% cut was added in the FY 82 continuing resolutions passed by Congress. This reduced the funding to $653 million.

In its budget presentation in February, the adminstration called for an additional $104 million rescission. This would drop the funding level to $549 million. Finally, the administration called for an additional reduction of 21% and merger into a block grant for vocational and adult education programs in Fy 83. (Chart 2 provides a complete breakdown of Vocational Education Act funding reductions by category.)

The effects of the budget cuts for FY 82 in Missouri would be substantial. Last year forty-eight requests for new and expanding programs from local school districts were denied; therefore, 712 students could not be served in my state in trade and industrial education. There were 11 administrative support positions that were lost and 12 trade and industrial programs were eliminated. Equipment expenditures needed to replace obsolete equipment were drastically reduced along with in-service teacher education. This first wave of cuts in some schools was minimized because of some carry-over funds from previous years. However, I'm told these funds are depleted now and all future cuts will have an immediate and total impact on students, programs, and personnel in trade and industrial education. Presently, we have 38 requests for new and expanding programs in trade and industrial education for next school year in Missouri. As you can see from what I have just said, the impact of the cuts will be immense and, as teaching staffs and supervisory personnel are reduced and programs closed, the waiting lists to get into remaining programs will become even longer than they are already.

Chart 2

VOCATIONAL EDUCATION PROGRAMS
APPROPRIATIONS

Program	Appropriated FY80	FY81 Funding Level After Rescission	FY82 Level in Continuing Resolution After 4% Cut	Revised Administration Proposal February 1982	President's FY83 Budget Proposal	AVA FY83 Request
Basic Grants Sec. 120	562,266,000	518,139,000	497,280,000	394,919,000	(Consolidate Vocational & Adult Education into a block grant)	578,024,545
Program Improvement & Supp. Services Sec. 130	124,817,000	93,323,000	89,590,080	88,130,000		129,817,000
Programs of National Significance	10,000,000	7,477,000	7,177,920	7,178,000		10,000,000
State Planning Grant	5,000,000	3,738,000	3,588,480	3,588,000		5,000,000
Special Programs for Disadvantaged Sec. 140	20,000,000	14,954,000	14,355,840	14,356,000		20,000,000
Consumer and Homemaking Sec. 150	43,497,000	30,347,000	29,133,120	29,133,000		43,497,000
Bilingual Sec. 191	4,800,000	3,960,000	(consolidated into education grant)	(consolidated into education grant)		(consolidated into education grant)
State Advisory Councils	6,500,000	6,500,000	4,979,520	4,980,000		6,500,000
Smith Hughes Approp.	7,161,455	7,161,455	7,161,455	7,161,455		7,161,455
TOTALS:	784,041,455	685,599,455	653,266,415	549,445,455	500,000,000	800,000,000

Summary

There is no doubt that Trade and Industrial Education must continue to be a central part of plans to revitalize our economy and building our military strength. Trade and Industrial Education for employment is a critical dimension of all efforts to update, expand, and improve industry and our defense production, and to advance the level of skills in all areas. Trade and Industrial Education programs across the country represent the major means for accomplishing this objective.

For more than a half century, the federal government has been a partner with state and local communities in building this program. Because of the federal support and involvement, Trade and Industrial Education has been able to meet the immediate and long-range employment needs of industry in our nation. This support has been a major catalyst for change and improvement -- for keeping curriculum and equipment up to date, for teacher and staff upgrading, and for the introduction of new and emerging programs.

During the last decade, support has not kept pace with inflation and enrollment increases and demand for training, and in the past year, a major reduction in the level of support has jeopardized the effectiveness of the federal role.

Without a return at least to the level of support achieved in FY 80, Trade and Industrial Education programs are in real jeopardy. These programs will not be able to keep pace with the ever-accelerating rate of change in the industrial community. Without the means of staying current, the value of Trade and Industrial Education programs to future workers is questionable.

America cannot afford to let its major system for preparing people for employment deteriorate. We urge you to support our request for $800 million in funding for fiscal year 1983. This is a reasonable, prudent level of support that will enable the federal government to maintain its important role in assuring that vocational education continues to serve the needs of our nation's workforce and industries who employ these workers.

Thank you.

THE VICA BLUE CHIP PORTFOLIO

238 Investors In America's Future

AM Bruning
AM International
AM Multigraphics
AMMCO Tools, Inc.
Air Conditioning and Refrigeration Institute
Airco, Inc.
Alterman Brothers
Aluminum Company of America Foundation
Amana Refrigeration, Inc.
AMAA Foundation
American Culinary Federation, Inc.
American Dental Association
American Institute of Cooperation
American Medical Association
American Technical Publishers, Inc.
American Technical Society Foundation
American Welding Society
Amoco Foundation
Ampex Corporation
Appalachian State University
Architectural Woodwork Institute
Armstrong & Dobbs
Art Institute of Atlanta
Art Institute of Pittsburgh
Associated Builders and Contractors, Inc.
Associated General Contractors of America
Atlantic Richfield Company
Atlantic Steel Company
Auburn University
Automotive Parts and Accessories Association
Automotive Service Industries Association

Bacharach Instrument Company (Div. United Technologies Corp.)
Barkers Box
Beers Construction Company
The Belden Brick Company
Belden Corporation
Bell and Howell Education Group
Beneke Corporation
Berol U.S.A.
Bickerstaff Company
Bio-Dynamics
Bodine Corporation
Boeing Computer Service Company
Borden, Inc.
Bostitch Division (Textron, Inc.)
Brick Association of North Carolina
Brick Association of Texas
Brick Institute of America
Bridgeport Machines (Div. Textron, Inc.)
Briggs & Stratton Corporation
Britt-Smith Company
Brodhead-Garrett Company
Brooks Machinery, Inc.
Brown & Sharpe Manufacturing Company
R.L. Bryan Company

Carrier Air Conditioning (Div. Carrier Corporation)
J.I. Case Company (Subs. Tenneco, Inc.)
Caterpillar Tractor Company
Chrysler Motor Company
Cincinnati Milacron, Inc.
Clairol, Inc.
Clausing Corporation
The Coca-Cola Company
Coca-Cola USA
Cofer Brothers, Inc.
Copeland Corporation
Corning Glass Works Foundation
Crane Company
Cummins Engine Company, Inc.

Dana Corporation
Daniel Construction Company
The Design Schools - New York
Detroit Diesel Allison Division (General Motors Corporation)
DeVilbiss Company Division (Champion Spark Plug Company)
A.B. Dick Company
DoAll Company
Ductile Iron Company of America
E.I. duPont de Nemours
Dynascan Corporation
Dynatron/Bondo Corporation

Eastern Illinois University
Eastern Safety Equipment
Eaton Corporation
Electronic Industries Association
Emory University School of Dentistry
Engelhard Industries Division
Enterprise Aluminum Company

Faber-Castell Corporation
Ford Motor Company
Foundry Systems Equipment Company

General Electric Company
General Motors Foundation
Genuine Parts Company
Georgia Hospital Association
Georgia Power Company
Ginn & Company
Goodheart-Willcox Company, Inc.
The Goodyear Tire and Rubber Company
Go-Power Corporation
Graphic Arts International Union
Graphic Arts Technical Foundation
Greenlee Tool Division
GTE Sylvania, Inc.

Hamilton Industries
Hancock Fabrics
M K. Hardowitz Company
Harmony Blue Granite Company, Inc.
J.W. Harris Company
Jesse S. Harris Construction Company
Hartwell Mills
Heil-Quaker Corporation
Heinz-Daniel Association, Inc.
Helene Curtis Industries, Inc.
Hewlett-Packard Company
Hill Manufacturing Company, Inc.
Hobart Brothers Company
Hobart Corporation
O.D. Hollar & Son, Inc.
Houdaille Industries, Powermatic Division
Humboldt Wedag USA

M.C. Ilhenny
Ingersoll Rand Company, Proto Tool Division
Institutional Wholesaler, Inc.
International Brotherhood of Electrical Workers
International Business Machines Corporation
International Union of Bricklayers and Allied Craftsmen
International Union of Operating Engineers
Iowa State University Press

J. JEB Manufacturing Company
J & M, Ltd.
Jeffco
Jhirmack Enterprises, Inc.
Johnson & Wales College
Jones & Company

Kaiser
Kearney and Trecker Corporation
Kearney-Baccus-Rehn & Associates
Kent-Moore Tool Company
Kenworth Truck Company (Div. PACCAR, Inc.)
Koh-I-Noor Rapidograph, Inc.
Kohler Company
Kraft, Inc.
Kroy Company

Lily-Owens Illinois
The James F. Lincoln Arc Welding Foundation
Lincoln Electric Company
Lincoln Technical Institute, Inc.
Litton Industries, Inc. Landis Tool Division
Lockheed-Georgia Corporation

MTI Corporation
Mack Trucks, Inc.
Magic Chef, Inc.
Magnavox Consumer Electronics Company
Mandeen Labs
Marsh Industries
The Martin-Senour Company
Mason Contractors Association of America
The Masonry Institute of Memphis
McGraw-Hill Book Company
Medical Economics Company
The Merit Shop Foundation, Ltd.
Milady Publishing Company
Minnesota Mining and Manufacturing Company
L.J. Minor Corporation
Moore Special Tool Company

National Association of Home Builders
National Association of Plumbing, Heating, and Cooling Contractors
National Automotive Parts Association
National Electrical Contractors Association
National Hairdressers and Cosmetologists Association
National Machine Tool Builders Association
National Restaurant Association
National Safety Council
New Britain Tool Company
Newport News Shipbuilding and Dry Dock Company
Nissan Motor Company, Ltd.
Nolan Pipe Company
nuARC Company, Inc.

Ohio Diesel Technical Institute
Ohio State University
Owatonna Tool Company
Owens Technical College

Panasonic Company
J.C. Penney Company, Inc.
Pivot Point International
Plan Hold Corporation
Power Tool Institute
Pratt Burnerd America, Inc.
Precision Plumbing Contractors, Inc.
Quasar Electronics

RCA Consumer Electronics
Redken Laboratories Company
William J. Redmond & Son, Inc.
Refrigeration Service Engineers Society
Rheem Manufacturing Company
Rockwell International Corporation
Roper Whitney, Inc.
Rotex Company

Sanders-Porter Paints
Scientific Products Division
Shopsmith Corporation
Simpson Electric Company
Snap-on-Tools Corporation
Solar Chemicals, Inc.
Southwire, Inc.
Square D Company
Staedtler Mars
Star Manufacturing Company
Sterling Manufacturing Company
W.K. Stringer
Sun Electric Corporation

Tecumseh Products Company
Tektronix Foundation
Teledyne Post, Inc.
Tennemith
E.H. Thompson Equipment Company
Trust Company Bank
J.M. Tulis Metals Company
Ron Turley Associates, Inc.

U-Haul Moving & Storage
UOP, Inc.
Ungar
Union Carbide Company, Linde Division
United States Gypsum Corporation
United States Steel Corporation
University of Georgia
University of Tennessee

Virginia Polytechnic Institute & State University
Vulcan Hart Corporation

Jim Wamplers & Associates
Wayland Baptist College
Webster Brick Company
Wentworth Institute of Technology
Whirlpool Corporation
White Consolidated Industries
Wilson United Corporation
Wilton Tool Division
Xerox Foundation

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Chairman PERKINS. Our next witness is Mr. David Lockwood. We are glad to hear from you. Proceed.

STATEMENT OF DAVID LOCKWOOD, PRESIDENT AND CHIEF EXECUTIVE OFFICER, INCONET CORP., NEW YORK, N.Y.

Mr. LOCKWOOD. Thank you.

Mr. Chairman and members of the subcommittee, my name is David Lockwood and I am the president of the Iconet Corp., a firm involved in computerized message switching and document communication services in New York City.

I am representing the business education division of the American Vocational Association. I am a business member of their National Advisory Committee.

My views this morning will, very frankly, be those of a businessman looking at the needs of education as opposed to an educator. I think there are several things that I personally would like to relate to you of incidents that I have observed in my experience in the implementation of computerized systems and other office automation systems that we are seeing prevailing in today's business community.

But I think one of the things that perhaps now my involvement in a very small company comes home very strongly to me, the needs of the educational area, that is simply that small business generates a good number of all of the new jobs which are created. I should like with several graphs to perhaps illustrate this point.

It is important to note that 98 percent of all business establishments are in fact classified as small business, according to the Small Business Administration. And that in fact they employ nearly 50 percent of this Nation's work force.

Small Business Administration also points out, as my colleague pointed out, that nearly two-thirds of all new jobs that are created are created by businesses with less than 20 employees, clearly an organization of the size which cannot, in fact, train its own people. It neither has the money nor does it have the training resources in order to be able to do that.

If we take just one more step, I think it is important to realize that 80 percent of all new jobs created are created within businesses of less than 100 employees. I think these two factors are extremely important in any consideration of legislation that you might have in the future.

Small business simply cannot afford, nor have they that resource, in order to be able to train the people as they might like to.

Another factor in small business that I think is extremely important and that is that most small businesses are unable to pay the higher salaries of particular occupations. Consequently, they tend to get the least experienced individuals. Therefore, these employees who come to them must be qualified by our educational system, if in fact, we are going to have our impact on the national and world economy in such a way that we will continue to drive the American free enterprise system in the fashion which I believe it can and should do.

Perhaps some of the experiences that I have had would be helpful for me to relate to you. But first, I would like to say, Chairman

Perkins, one of the members of the Kentucky Division of Education in business education called me the other day, perhaps to illustrate one of the points that we are dealing with, and that was that in the area of office education the adult classes registration in Louisville had a waiting line where people waited as much as 5 hours in order to register and yet, in fact, only half of those people were able to be accepted into the program for the particular semester that the classes were offered.

I think those illustrate a need on the part of people recognizing education.

From the standpoint of business, I have observed that basically two things, first, many people are not qualified in the particular skills in which they are or must have in the job in which they are assigned; second, they are not motivated because they do not understand their role within the business. Sometimes they are demotivated by the fact that their supervisors are also untrained and therefore create negative impact on their ability to perform the job.

So I think that we need, from a business education standpoint, to look at two important areas. One of them is the present skills that are being taught, the skills need to be taught in the future for the so-called office employee, which also, for 50 percent, looked at in another fashion of our total work force in the United States.

But we also need to take the fact that we have a good number of firstline supervisors. As a matter of fact, it is estimated that approximately 10 percent of all workers, better than 100 million people who are working today, nearly 10 percent of them are firstline supervisors. Most of them are promoted from within the ranks and most of them are untrained in any way to manage and supervise other people.

So I would like to suggest that as we look at some of the skills, and reapplying some skills, that in fact we should take things and relook at some of the things we are doing, such as in typewriting, normally that has been taught to individuals who are pursuing secretarial careers. As we look at the computer today, it is estimated in 2 years nearly two-thirds of the people who are employed will be put before a keyboard of a computer terminal, that in fact we need to train a very large mass of our working people to, in fact, be able to keyboard as a skill.

There is nothing more disconcerting than to watch a $40,000 a year engineer with all of his training and his degrees, et cetera, sitting at a keyboard and simply using the hunt and peck system, and we have simply reduced that individual's skill and capability to the fact that he is hunting and pecking on a typewriter-like device without a keyboard.

Therefore, I suggest we need to, with that example, simply look at a different way that we approach all of our skills in that fashion.

Second, in the area of supervision, I believe we need to teach problem solving to all people because they may, in fact, become supervisors, managers; that we need to deal with interpersonal relationships and all of the other factors which make effective supervision.

Finally, I think we need to make sure that we are addressing the fact that we have qualified teachers and that we keep those teach-

ers qualified as changes in our society and our technological capability within business prevails.

We are finding that—and by personal example—I was asked by a teacher to take a look at their computer system that they were using to teach. Much to my surprise, this was just a couple of years ago, I was shown an IBM 401 printer which had been discontinued by the manufacturer more than a decade ago. The computer programing was being taught on a wiring board panel for that machine.

I must say at the same time I have seen in Windsor, Conn., a very highly sophisticated computer system that was doing—where the school system was doing an excellent job. But I think the important thing is that in my first example that, in fact, the individuals who were teaching the course, the individual who was teaching the course was not qualified, had not been upgraded in his education, having graduated from his school some two decades earlier.

Also, the tools were inadequate. I think we need to address that. Therefore, I should like to recommend from a business viewpoint that we take into consideration several possible approaches that I believe the Federal Government is, in fact, assisting.

I would think we should form an effective partnership between all levels of government and business to reexamine the subcontent of what is being taught in business education, that we should provide incentives to business to provide new tools and develop simulation devices for the educational community, including perhaps that incentive could be in the form of tax credits.

We should increase business and educational communications through interchange of the cooperative student programs and that the teacher and business exchanges, in fact, take place where business can see what is being taught in our school systems, and teachers can see how it is being applied in the everyday life.

We should encourage more students to enroll in business education. Our shortfall by 1987, in fact, we expect 5 million business office personnel to be required in terms of new jobs and yet we will train less than a million. We have a critical shortfall in the computer industry. We must, in fact—it is simply getting worse; it is not getting better. We are not in a catchup role. We need to teach the selected office skills to more students, including those who are college bound. We cannot afford to have people who continue to think today that business office education is for the disadvantaged and the noncollege bound.

We need to intensify business education's role in retraining of workers. We need to teach management and supervisory skills, and institute programs that assure the teachers are qualified, No. 1, to teach business education, and we need to institute programs to update teachers so that they can continue to be current with the technology as it changes.

If we are to take that $6,000 figure that it costs to employ an individual and we were to look at the 5 million people we will need in 1987, we are talking about a bill to business which will be $30 billion, and two-thirds of that will have to be borne by small business.

I believe the Federal Government can provide a leadership role that will enable us to perhaps halve that training cost, a savings to

business of more than $15 billion to compete in today's world economy.

Thank you.

[Material submitted by David Lockwood follows:]

PREPARED STATEMENT OF DAVID R. LOCKWOOD, PRESIDENT AND CHIEF EXECUTIVE OFFICER, INCONET CORP., NEW YORK, N.Y.

Mr. Chairman and members of the Committee:

I am David R. Lockwood, a member of the National Advisory Council of the Business Education Division of the American Vocational Association. My views today represent educational needs from a business viewpoint rather than an education viewpoint.

My full time business responsibility is as the President and Chief Executive Officer of Inconet Corporation, a firm which provides computerized message and document communications services to the financial and publishing industries. I am a member of the American Institute of Industrial Engineers and The Institute for Management Sciences.

Perhaps it would be well for me to give you some background which will explain why I am here, and why I feel the strong need for business education to be an intergral part of the elementary, secondary, and adult education curriculum.

My business experience includes over 29 years in the communications, office and information systems industries. Over 15 years of that with a major communications firm. Resposibilities have included a number of managerial and consulting positions. In 1975 while employed by GTE I was assigned to manage their Performance Improvement Program. A group of projects designed to improve productivity. These ranged from improving the installation telephones to improving the way documents were prepared from creation by originator to delivery of the printed product.

During our studies we observed people that did not possess the skills to perform the jobs assigned, forcing them to work less efficiently. We also saw people that were not motivated to do their job as they did not understand their job and/or were negatively affected by their supervisors who were not qualified

to supervise. Discussions with persons at other companies revealed the same problems.

During a project on office automation I was asked to speak to the Connecticut Business Educators Association about new tools in the office. The talk was about the new systems which we had installed, much of which we had already taken for granted. However, the reaction of the teachers was future shock. Many had not heard of much less used many of the machines and systems discussed. This was the beginning of a dialogue with educators about the need for relevant business education.

ISSUES

In considering legislation, these are the issues which I believe are important for you to consider.

1. The business community's needs for qualified persons.
2. Expanding the horizon of knowledge and skills needed by workers.
3. Need for educational community to provide current and relevant insturction and equipment.

BUSINESS NEEDS FOR QUALIFIED WORKERS

First let's put down a myth which I frequently hear. That is: "Business can afford to train people because it has the money and the resources." To disspell this I site a recent study by the Small Business Administration which reveals that 98% of all establishments are classified as small busness. They employ approximately 50% of the work force.

The study also points out that business with fewer than 20 employees create two out of three new jobs. That 80% of the new jobs were created by firms with fewer than 100 employees.

Small businesses cannot afford to hire persons without the necessary knowledge and skills. Yet small businesses tend to hire persons with little experience as they cannot afford the high salaries for experienced employees. Thus the bulk of newly created jobs are filled by persons entering the workforce. Small business must depend upon the education community to supply qualified persons.

The lack of qualified employees has negative impact on large businesses as well. The impact includes:

1. High training expense.
2. Low productivity while the employee is learning on-the-job or never achieves top efficiency.

In today's world economy, American industry finds itself at a competitive disadvantage due to the high penalty of insufficient business education.

A study conducted for the Department of Defense forecasts that 5 million new office worker jobs will be created in 1987. If this forecast is accurate, then the next few years are citical to business education.

BUSINESS EDUCATIONAL REQUIREMENTS

The explosion of electronic processing and information systems are creating new occupations. We must address these occupational needs to assure an adequately qualified workforce.

There are several ways business education can serve the business community regardless of occupation. They are:

1. Knowledge and skills which help any person to perform their tasks more effectively.
2. Skills required for specific occupations.

Let's take a new look at some of the skills we teach in our educational system. The function of all office workers will change due to new technology in the next 10 years. Many of the skills presently taught to selected occupations must be taught to a broader spectrum of people. For instance, typing is taught as part of the secretarial training; however, as keyboarding has a broad application and could be used by nearly 2/3rds of the people in their jobs.

Our studies revealed that if a person used a typewriter to create information instead of using a pencil, they would increase their output nearly 50%; providing they were skilled in using a keyboard. If that same person were able to use a word processor to create their information, they would double their output. Since over 1/2 of the people employed in business are in office occupations, the potential for increased in productivity is approximately 5% of all labor time.

To extend this example of keyboarding, today, with he rapid proliferation of computers, you find many people presently sitting at keyboards who possess little or no skill in using them. A study was made (by one firm) of all persons that used computer terminals. To their surprise they found that most of their professionals, ie. engineers, marketeers, etc. spent considerable time at the keyborad. Many spend over 1/2 heir time on computer systems. They decided to teach keyboarding to all who used terminals, starting with those who used them the most. Two months after the one week course they interviewed the managers of the people trained. The results: Managers indicated that some people more than doubled their output on the systems, and all reported an improvement. The managers also indicated a perceptable improvement in the quality of work producted. Interviews with the participants in the keyboard training indicated they they found they could get more work done in the time

frame allowed, that it was less tedious, and they now had time to analyze and research information that was previously spent at the keyboard.

The purpose of this example is to illustrate one opportunity we have to improve the ability of people through better training. It also illustrates the better use of skills already taught which had previously been looked upon as a skill to be utilized by one occupation which in fact has broad application.

Department of Labor statistics reveal that approximately 10% of all workers are in 1st level supervisory positions. Personnel studies by various groups show that most of these people are promoted from the ranks based upon their specific occupational achievements. Most have had no training prior to their appointment in the area of managing resources or handling personnel situations. If it is correct to assume that nearly 10 million workers are untrained in key responsibilities of their tasks, then we have a national mandate to change our Business Education system to prepare workers to better supervisory responsibilities.

From my point of view, the subject areas that must be included are: problem solving, business communications, interpersonal relationships, organization, budgeting, scheduling, planning and the role of the employee within the organization. A major concern in this country is the failure rate for small businesses. Entrepreneurship and free enterprise education, in my opinion, will dramatically reduce the number of failures.

EDUCATIONAL SKILLS, TOOLS, AND RELEVANCY

It is important that business educators not only teach the required business subject, but that the instruction is relevant to present and future needs. With the nearly 4 million new office worker jobs forecast to be created in 1987, the need for updating is urgent.

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Perhaps this personal experience tells much of what I'm trying to say. A business education teacher asked me to see their computer system and talk about their Data Processing program. There in their computer room was an IBM 401 printer (a machine discontinued by IBM over a decade ago) and a wiring panel for "programming" (which to my knowledge is virtually non existant today).

This example points up three problems:

1. The teacher was not up-to-date in his skills. He did not know any computer language.
2. The tools he used to teach were obsolete.
3. What he was teaching was not relevant and probably useless.

As a furtherence to this example a discussion with the school system administrator involved revealed that he considered business education for the disadvantaged an non-college bound student. Nothing can be more damaging to American enterprise that this type of archaic thinking.

We must in some way develop a system to assure that:

1. Teacher education programs are relevant.
2. Teachers and curriculums are current.
3. Teachers have the appropriate tools for teaching.

One of the ways the federal government might approach this is to research the needs of business and establish basic business education standards. (Example: Subjects to be taught/curriculum content) This would be done with substantial input from the business community, business educators, and vocational student organizations such as Future Business Leaders of America and Office Education Association.

Educators frequently tell me that their biggest handicap is that they don't have the tools to teach the skills. Or they have equipment that is obsolete. An approach to this would be to work with and/or to provide incentive to the

computer and business equipment manufacturing industry to develop simulation devices which could emulate various machines and systems, similar to the way the Link Trainer was used to teach flying without using expensive airplanes. The nucleus of this already exists in the micro computer. What is needed is the further development of programs to make this a true simulator. Another way that simulation does work is through an intensive cooperative work education program where teachers and students receive on-the-job training.

CONCLUSION

The federal government must be instrumental in improving business education in the following ways:

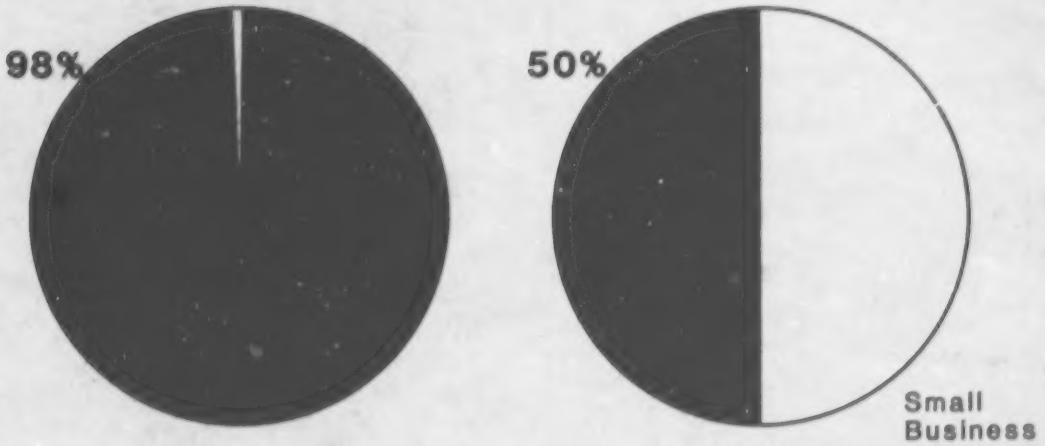
1. Establish standards for business education. This would best be done by forming a working partnership between the Federal, State and Local Educators and the business community.
2. Provide incentives to business to develop and/or supply the necessary tools and experiences to the educational institutions. A possibility might be to provide tax credits for qualified assistance.
3. Provide seed money to develop simulators and programs which might reduce the need for continual updating of tools used to train students.
4. Institute teacher education programs to assure the competency of the new teachers entering Business Education.
5. Institute programs to update teachers for changing business and technological situations.

The information discussed earlier indicated that it will cost $6000 per office employee for training. That represents $30 billion to train employees in 1987 and 2/3 of that cost will have to be born by small business.

The Federal government can impact that $30 billion expense to business through better Business Education training.

It is my opinion, that effective Business Education would reduce that business expense by 50%.

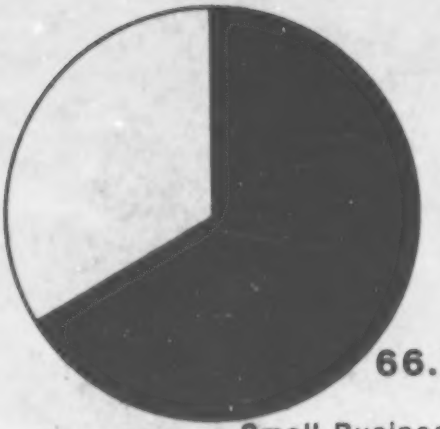
UNIVERSE OF BUSINESS



Percentage
Small Business

Portion of
Employees

NEW JOBS



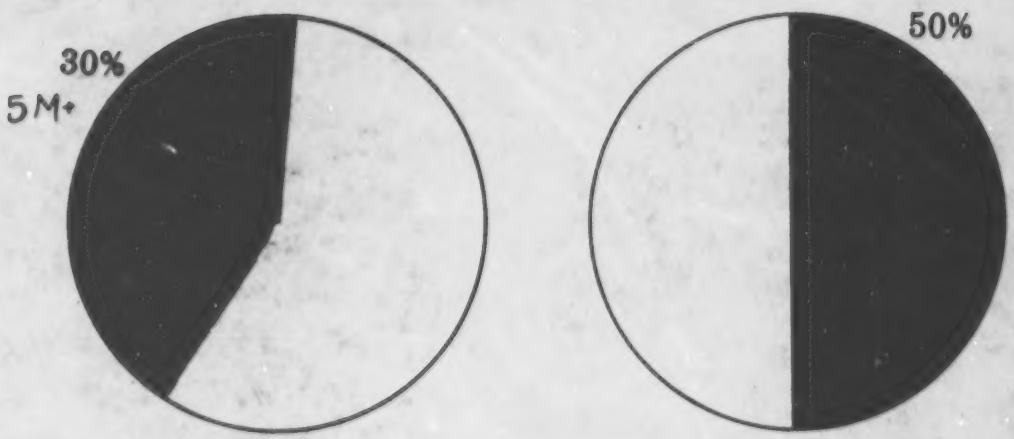
Small Business
2 out of every 3 jobs

Business with under
20 Employees

Small Business

Business with under
100 Employees

TRAINING COSTS



18 Million
Total Number
New Workers
All Occupations
thru 1990

1982
Cost to Train
New Worker
Annual Salary $12,000

BUSINESS EDUCATION FACT SHEET

DEFINITION

Business Education is a broad, comprehensive discipline appealing to a wide spectrum of the population. Because business enterprise is one of the dominant elements of present-day American society, education for and about business should be a significant component of the curriculum of every school. The primary emphasis is on instructional options for students with vocational interests in business. Whatever the career objective, everyone needs an understanding of the American business system. Curriculum designers are urged to make sure that access to business education programs is available to all students.

Business education responds to the four major trends in business and industry. They are:

A. A trend toward automatic, integrated office systems.

B. A trend toward entrepreneurship and small-business ownership.

C. A trend toward consumer and economic literacy.

D. A trend toward miniaturization.

Business education includes a variety of courses and other learning experiences that will give students the skills, knowledge, and attitudes basic to successful participation in society and the workplace. These fundamental abilities can be put into five groups:

Basic understanding of business and career;
Information Processing;
Business competences related to communication;
Computation-related business skills; and
Associated business skills and attitudes.

Integral components of Business Education are their vocational student organizations and cooperative work education relations with the business community.

ENROLLMENTS

1979-80 DATA

By 1990, 11.8 million office workers will be needed to fill jobs that already exist; 6.8 million more workers will be needed to fill new jobs.

Enrolled		Completers	
Secondary	1,972,161	Secondary	301,285
Post Secondary		Post Secondary	
Regional	1,068,262	Regional	149,037
State	70,814	State	12,855
Other	288,820	Other	100,135
Total	3,400,057	Total	563,312
Handicapped	46,341	Handicapped	13,331
Disadvantaged	419,700	Disadvantaged	76,680
Limited English	17,320	Limited English	3,010
Female	2,502,263	Female	394,319
Male	897,794	Male	168,993

PLACEMENT

Statistics indicate that the demand for office workers far exceeds the supply. To meet this shortfall, increased efforts are necessary to provide educational programs at all levels which will close the gap between supply and demand and provide skilled office workers.

Employed	53%
Post Secondary Education	46%
Military	1%

DELIVERY SYSTEMS

Business Education knowledge and skill development is provided through the following delivery systems:

Secondary Public/Private Institutions

Vocational-Technical High Schools

Proprietary Schools

Community Colleges

Junior Colleges

Four-Year Public/Private Colleges & Universities

OCCUPATIONAL AREAS

A majority of job growth will be in white collar and service occupations, reflecting the tremendous growth projected for the service, trade, and finance, insurance and real estate industries. White collar workers, including professional, technical, managerial, administrative, clerical and sales occupations will make up over half of the nation's total workers. The largest increases in the professional and technical occupations will be in areas of computer applications.

To meet these demands business education offers training in the areas of:

Accounting/Bookkeeping
Banking/Financial
Data & Word Processing
Office Supervision & Management
Secretarial
General Office

NEEDS

To develop forward looking business education programs to meet the needs and demands of a changing society, changing technology, changing economy, and changing workplace, the following is recommended.

Relevant teacher-education programs

Technology qualified teachers -- preservice and inservice

Updated instructional equipment

Active participation of the Business community

Aggressive leadership

Integral vocational student organizations

Intensified guidance services

Increased cooperative work experience opportunities

Multifaceted teaching approaches

IT'S NOT TOO LATE!

The image and effectiveness of business is deteriorating as a positive force in American life.

EXCESSIVE AND PROLONGED INFLATION. TIGHT MONEY. DEFICIT SPENDING. ESCALATING TAXES. WINDFALL PROFITS. DECLINING PRODUCTIVITY. UNDEREMPLOYMENT. A DE-EMPHASIS OF THE WORK ETHIC. HIGH UNEMPLOYMENT WHEN JOBS ARE AVAILABLE.

These are excellent headlines for the evening news. They are also visible signs that there could be a collapse of our present economic system, of the standard of living level we enjoy, and of the operation of private business in our nation.

As Americans, we are frustrated. We want to do something to help alleviate this economic chaos, but we don't know what to do. We have not adequately educated ourselves to make business-economic decisions as citizens and consumers; to make effective occupational choices; and/or to efficiently produce goods and services. We lack a basic understanding of the economic system, of how we fit into it, and what our responsibilities are in keeping it progressive and sound.

Hindsight is 20-20, but it is almost ludicrous that we live in a business-oriented society, yet most American youth and adults are not knowledgeable about our business-economic system.

There is a lack of education for and about business at the elementary, secondary, post-secondary, and university levels of our education system. There is a lack of sufficient education and communication to the general public about the extensive contributions business, industry, and labor make to the American standard of living. The importance of the profit motive and free enterprise as strengths of our economic system are not stressed. There is a lack of knowledge by the entire citizenry about how business and economic problems affect our national security. Only 5% of the secondary school population is enrolled in business education classrooms.

Education is one of the keys to solving our economic problems. American citizens must be educated about the marketplace and how they fit into it.

The National Advisory Council (NAC) of the Business and Office Education Division of the American Vocational Association (BOE/AVA), recently developed guidelines for addressing the problem of business-economic education and awareness at all levels.

These guidelines are entitled, "Education For and About Business in America--It Is Not Too Late!" They were developed for use by business educators in promoting a greater understanding of business, economics, and consumer education throughout the nation; and to renew an appreciation of the world of work.

The NAC is comprised of representatives from business, government, education, and student organizations. The Council has an intense interest in every phase of business and consumer education, as well as the need for satisfying and productive employment for the nation's citizens.

In the guidelines, the NAC makes three proposals: (1) All elementary students be made more aware of the American economic system; (2) basic business, economic, and consumer education be required as a year-long course for all high school students; and (3) all levels of education beyond high school include appropriate courses to expand knowledge in these areas. These proposals are in tune with the trends in today's American education--"back to basics." Career education (including occupational education), consumer and economic education, and integrating free interprise into the curriculum must become part of the "basics" if we are to educate and aware citizenry.

These proposals should be a part of business education and be handled by qualified business teachers. They could be supported by students who need jobs and who want financial independence; parents who want their children to be financially self-sufficient; and educators who want a well-balanced curriculum. They could also be supported by employers who need qualified, responsible, and productive employees; labor representatives who want qualified workers and a prosperous and effective business-economic system; and local, state, and national decision-makers who want effective and efficient school systems. Also, the ever-important taxpayers who want efficient school systems that educate knowledgeable, productive, and contributing citizens could--and probably would--endorse these guidelines.

These proposals may may be faced with obstacles. There are local and state administrators who from lack of knowledge and/or funds do not adequately support business and office education programs in the schools. Many colleges and universities are eliminating business education departments. Improper presentation of facts and information relating to our free-market society are being given to the public. There is limited or non-existent communication by labor and business. There is also a lack of knowledge as to how to overcome the constant erosion of the economic system.

Business educators, as well as parents, students, employers, labor, and taxpayers, can begin to overcome these obstacles. These individuals or groups can use these guidelines when contacting local and state boards of education, school administrators, boards of regents, state coordinating boards, or legislators. Persons or groups of persons can use these guidelines also when contacting business and labor representatives to seek financial and philosophical support for education for and about business in elementary, middle, high school, and post-secondary institutions. Business teacher education programs in colleges and universities can begin to stress these areas. Student organizations that support business-economic concepts can get involved. Business and industry cooperation and active involvement at all levels will be heightened, and students and parents will be made aware of our economic values.

Business educators and interested individuals should participate with national and local groups that are providing programs, materials, and incentives in fostering basic business, economic/consumer, and occupational education. Business organizations should discuss business-economic systems with students and educators. There should be an implementation and follow-up of improvements in business-economic understanding on local, state, and national levels.

We realize that many of the concerns and problems that are facing us today will be resolved if we aggressively address the problems of educating the nation for and about business. This kind of education at the elementary, secondary, post-secondary, and university levels will greatly improve the efficiency and effectiveness of business as a positive force in America today. The concepts of free enterprise and entrepreneurship will enhance the capability of our citizens to make effective occupational choices. Through the knowledge that business educators can impart to students, emphasis can be placed upon the quality of the work life and value of the work ethic. It is not too late!

Chairman PERKINS. Thank you very much.

You know, this testimony has been most interesting. I just wish that the entire Congress could have heard all you gentlemen.

Ms. Yolanda Dolecki, we are delighted to welcome you here. You go right ahead.

STATEMENT OF YOLANDA DOLECKI, SUPERVISOR OF HEALTH OCCUPATIONS, STATE DEPARTMENT OF EDUCATION, MISSOURI

Ms. DOLECKI. Thank you.

Mr. Chairman and members of the subcommittee, I am Yolanda Dolecki, supervisor of health occupations education, Missouri Department of Education and am representing today the health occupations educators within vocational education. We appreciate this opportunity of sharing our views and certain information to this committee because we are a very vital part of vocational education. In fact, health occupations made its debut in vocational education back in 1956.

With that, I would like to share with you a little overview of health occupations because it is a rather complex component of vocational education. I would like to share with you the state-of-the-art. I would like to share some of the effects of budgetary constraints, and also, finally, our preference on legislative matters.

As I mentioned, we have been in vocational education since 1956 and some people, as the doctor pointed out, would consider us some of the new kids on the block.

In 1964, with the additional appropriations through vocational education, we have been able to switch our emphasis from practical nurse education to that of the other health care givers. More specifically, these would be health care givers that are prepared at less than baccalaureate level in our community junior colleges or comprehensive schools and area vocational schools.

Another dimension of our involvement is supplementary education to those people already in the work force to upgrade their skills.

A third dimension, as you know, it is a very traditional occupation, women tend to drop out of health occupations, have families, so there is a need to provide them retraining so that they can reenter the work force of health occupations. So our preparations are in those dimensions.

To set the stage, I think it is very important for you to know that health occupations is complex and there is a stratification of the kind of people in that work force and their levels of control of health care delivery, which affects each and every one of us in this room, is based on their role.

We have the autonomous professionals. Those people are the people that have the burden of legal responsibility for health care and those individuals are physicians and dentists who are trained in professional schools.

The second category of health care worker is the allied health professional. These individuals require baccalaureate and higher degrees to function in the system. Examples of this occupation would be the nutritionist, pharmacist and, by definition, the registered nurse who commands a baccalaureate degree.

Then the next category is the allied health supportive personnel, and this is where vocational education enters into the picture by providing education for these people in our various settings. Examples of these areas would be the 2-year associate programs and hospital diploma programs which prepare people in the radiology area, other allied health areas, and an example would be the other two methods of preparing professional nurses, that is the associate degree program and diploma program.

Next in line is the health care assistant, an individual who requires less than 2 years of training.

Chairman PERKINS. Let me interrupt all of you just a moment.

Ms. DOLECKI. Yes.

Chairman PERKINS. It would be my hope, since this is really a very important week to you here in Washington, that you could let all the members of the Budget Committees and all your friends in Congress know that you are inadequately funded. The Members of the Congress could not sit here this morning and listen to you without coming to that conclusion.

You have all made an excellent appearance. I just regret that more people did not hear all of you witnesses today. Let's try to not only hold fast to the limited funds we have, but also to do our best to add to these funds, to try to take care of some of these urgent needs, if it is at all possible.

We in the Congress sometimes forget the good that is going on and we need to be educated. Since you are here, I would make sure that I visited every friend on the Hill and tell them some of the things that you are telling me and Dale Kildee and the other members here this morning.

Proceed with your testimony. You are doing well.

Ms. DOLECKI. Thank you.

Finally, we have a third level that vocational education is involved in in health occupations education. That is the health care aide level. This is probably our largest work force and this would include such individuals as the nurse assistants in long-term and short-term care, it includes the unlicensed personnel who deliver medications in long-term care, anyone that is at the dietary level. This then brings in another component of health occupations, which is the secondary health occupations cluster program.

Our students in this program are exposed to the various occupations in health occupations, they make a selection as to an occupation they would like to pursue. Most of these students in the second semester than have on-the-job training and come out with some entry level skill at the aide level.

I think it is very important for you to know that health occupations education is designed to meet standards that are given to us by licensing boards, standards given to us by credentialing agencies, and also by mandated legislation.

These are all external to education. This then provides that every student that is in health occupations must have a clinical experience in that they go to a health care facility and learn their skills utilizing live bodies.

This brings a question or problem to us in that it is very expensive? We cannot send an instructor into a hospital, for example,

with more than 6 to 10 students because the jeopardy of our health care is on the line.

Health care delivery systems, or at least the health care industry, our hospital association people tell us is the second largest industry in this country. So vocational education has answered the challenge by assisting in the preparation of these people.

Let me tell you a little bit about where we are with Health Occupations today.

We have from the data that we have at hand at least 800,000 people that we have trained in the area in 1980. This comprises 14 percent of the student enrollments in vocational education. Of the 800,000-plus students, we have 128,000 students who are enrolled in our secondary programs and this comprises 15 percent. We also then have 85 percent of post-high people in our educational programs.

I would point out that even though health occupations is a traditional line occupation, we are making strides in having additional nontraditional enrollment and we are at about 22 percent of males over females in our programs.

I would like to share with you that the direct cost of educating health occupations is around $410 million. Of this, $24 million comes from Federal sources and that comprises about 5.9 percent with the other 94.1 percent coming from the non-Federal sources.

On page 5 of my testimony, you will note that there happens to be a demand for education for health occupations in the future. I ask you to please review those.

The key thing I would like to share with you is some linkage activities that vocational education has made available to health occupations. The great care right now is the long-term care industry.

Most States, at least 16 or better, now have omnibus nursing home laws which mandate the number of hours that the nurse assistants must have in order to be certified to work in this particular area. Some of the States that have worked with their health care delivery systems in aging, just to name a couple, are California, Indiana, Kansas, Missouri, on and on.

In Missouri we have an exemplary project that has been our link with the Division of Aging. Our omnibus nursing home law came into effect in 1980. We were asked to work with the Division of Aging and the health care providers to develop standardized curricula. This we did, and since 1980 I can tell you 21,000 student guides have left the University of Missouri Instructional Laboratory. So we have made quite an impact in the nursing home industry.

The key thing I would like to share with you is that the cost of developing that project was less than $10,000 because we not only used vocational funds, but the Division of Aging was able to give us an amount of money, somewhere in the neighborhood of $3,500. This took care of developing the curriculum and field-testing it.

That is a prime example of how vocational education is using the funds available to us wisely and looking to help from industry. We have come a long way.

As you know, there are always so many budgeted positions that need to be filled. Vocational education has helped a great deal. In the early days industry trained most of the people for the work

force. It got too expensive. They looked to education. This is where we came in, to assist there.

About 1974, in order to make yourself available to a practical nursing program, it would have cost you about $300 for that 1-year program. Today it costs upward of $1,400. Let me tell you why. This has happened because of our constraints fiscally, but in the early years the hospitals were able to contribute a measure of direct cost to help us defray our salaries and what have you.

As the spiraling inflation took place, these industries have withdrawn their support. It has again fallen back on the student. With the various kinds of constraints that we have on student loans, again this burden is back on the student's shoulders. So those are some of the things that have given us some problems.

Dr. Robison mentioned sitting on his desk he has nine proposals for new expanding programs. This past year in fiscal 1982, Health Occupations turned down in Missouri eight of these programs. We predicted 110 students would not have been served because of the inability to provide this education for the people.

Another way that industry, at least the education sector, is coping with this problem is that they are hiring part-time staff for the Health Occupations programs. This is a very bad practice because the standards require a student-faculty ratio for accreditation and licensing. It will ultimately break down the health care delivery system. They are doing this because they are offsetting such fringe benefits as retirement and so forth because they will not have to pay that to part-time faculty.

We can go on and on as to what can happen to Health Occupations because of the current Federal constraints. We feel that there has to be a Federal presence in Health Occupations because it is a national kind of occupation, because of our standards, licenses, people can be mobile, move from State to State. Certainly we need to have cooperation with the Government to keep our standards high.

I think that perhaps another area that you give careful consideration to, we have a great deal of emphasis on civil defense. We have a delivery system that is in place. I am thinking that Health Occupations can play a very major part in the civilian defense preparedness that is beginning to take shape again after World War II. We are looking, with the management medical people, disaster people, to perhaps see that we can give civilian defense mobilization a little bit of impetus and training in that area.

We have shared with you where Health Occupations is in this complex milieu. We have told you about its impact; also, we shared some of the problems that we have because it is a high-cost program. We have come a long way since the Barden Act of 1954.

If I were to leave you with any thought, it is that Health Occupations is not for the other person, it affects you, it affects me, and I think both of us deserve the best, so your consideration is appreciated.

Thank you.

[Prepared statement of Yolanda Dolecki follows:]

97-260 O—82——12

PREPARED STATEMENT OF DR. YOLANDA DOLECKI, SUPERVISOR, HEALTH OCCUPATIONS, MISSOURI DEPARTMENT OF EDUCATION

Mr. Chairman, Members of the Committee:

I am Yolanda Dolecki, Supervisor, Health Occupations Education, Missouri Department of Education. I appreciate the opportunity to share with you certain information and views concerning that component of vocational education known as "Health Occupations Education". Our testimony will include: (1) an overview of health occupations education, (2) the state of the art, (3) the effects of budgetary constraints, and (4) our preference in legislative packages.

Overview

Health occupations education emerged as an integral part of vocational education with the passage of the George Bardon Act: Title II in 1956 which had provisions to expend funds for practical Nursing education. With the additional vocational appropriations in 1964, health occupations education was expanded to:

(1) provide specific educational experience essential for the development of skills, knowledge and attitudes necessary for employment in existing and emerging health occupations requiring less than a baccalaureate degree;

(2) provide supplementary educational experience necessary to update and improve effectiveness of the job; and

(3) provide educational experience designed to encourage inactive health care givers to return to part time or full time employment.

In 1975, Elizabeth Kerr outlined the following stratification of the health services workforce:

Autonomous Professionals are those individuals who carry the greatest burden of legal responsibility. Included are physicians and dentists who are generally prepared in medical and dental colleges of private and public universities.

Allied Health Professionals are those individuals who are usually prepared at four year colleges and universities in health specialty departments. Examples include: nutritionists, medical laboratory technologists, physical therapists, registered nurses (Baccalaureate preferred), pharmicists, et cetera.

Allied Health Supportive Personnel are those individuals who are prepared in community colleges, technical schools and hospitals and who receive professional certificate or associate degrees. Examples include: medical laboratory technicians, radiographic technicians, registered nurses (associate degree and diploma), dental hygenists and other supportive personnel.

Health Care Assistants are those individuals who are prepared in vocational schools and community colleges. Examples include: dental assistants, medical office assistants, practical nurses and other assistant level occupations. These programs are usually one year in length and appropriate certificates are awarded. Enrollees include: secondary, postsecondary and adult students.

Health Care Aides are those individuals who are trained in hospitals, vocational schools and community colleges. Examples include: nurse assistants (acute and long term care), medication aides (long term care), physical and occupational therapy aides, radiographic aides, dietary aides and other aide level occupations. Programs are short term and certificates are awarded. Enrollments primarily include secondary and adult students. The basic program at the secondary level permits students to explore the

health occupations cluster of occupations, receive training in a core of skills related to health services and acquire entry level skills in one or more of the occupations.

An Unnamed Category of emerging health care providers that cannot be placed in any of the previously mentioned categories is the physician's assistant, independent nurse practitioner, specialized pediatric and family nurse practitioner. This category of health worker is between the autonomous professional and the allied health professional who are trained in universities and medical schools with guarded primary health service.

It is important to note that health occupations programs for the most part are structured to meet minimum standards emanating from licensing, credentialling and approval agencies external to education. Although these standards are in place to assure safe practice and safe guard the public, they also assist in making health occupation a high cost enterprise. Each program integrates a clinical assignment in health care facilities which require a low student:faculty ratio.

State of the Art

Health care delivery with its diversity of related occupations is the second largest industry in our country. Vocational Technical education has assumed a major role in the responsibility for preparing a skilled health care workforce not requiring a baccalaureate or higher degrees.

The secondary health occupations programs are located in comprehensive high schools and area vocational technical schools. Postsecondary programs are located in degree granting institutions such as community junior colleges, four year institutions and universities. Adult programs may be offered in any agencies listed above.

A review of 1979-80 data revealed that 834,296 of 5,979,508 or 14% of students enrolled in Vocational Education were health occupations students. Of the 834,279 enrollees, 128,672 or 15% were enrolled in secondary programs and 705,624 or 85% were enrolled in post high school programs.

Expenditures (1979-80)

	Direct Costs	Non Federal	%	Federal	%
Total	$410,673,390	386,555,335	94.1%	24,118,055	5.9%

Of the total direct costing, 5.9% of the federal dollars were expended for health occupations education which served 14% of the total enrollment.

Comparative Cost Per Pupil (Based on Direct Cost)

Agriculture	$349	Trade and Industrial	$451
Distributive Education	$204	Occupational Home Economics	$351
Office Education	$330	Home Economics	$127
*Health Occupations	$492	Industrial Arts	$113
Technical	$545		

In the above, it should be noted that only technical education commanded a higher per pupil cost than health occupations. As previously mentioned, the higher cost of health occupations education is based on the low teacher: student ratio required for safe practice and consumer protection.

Support services which enhance the quality of instruction such as research, curriculum, teacher education and personal development are funded from federal dollars. These resources have enabled us to pursue linkage activities with the health care industry and state and federal agencies to develop standardized educational programs to meet mandated regulations. A

number of states such as California, Illinois, Indiana, New Hampshire, Kansas, Missouri to mention a few have developed nurse aide training programs for long term care based on the regulatory requirements. This activity has had a tremendous impact on the demand for these instructional materials. Since 1980, in Missouri alone, over 21,000 student guides were disseminated from the University of Missouri-Columbia instructional materials laborstory. The cost to develop and field test these materials was less than $10,000 because of our joint effort with the Division of Aging. We feel that this is an efficient utilization of the tax payers dollar.

May 1982 data from the U.S. Department of Labor forcasts the following employment needs for 1980-90 of selected health occupations.

Occupation	Number
Medical Lab Technology	105,000
Nurses	1,400,000
Surgical Technicians	32,000
Dental Hygiene	61,000
Health and Recreation	32,000
Nurse Aide/Orderly	1,175,000
Psychiatric Aide	82,000
Dental Assistants	139,000

Effects of Budget Constraints

Impact of present constraints

The health care delivery system has become more and more dependent upon workforce emanating from vocationally supported programs. In the State of Iowa, nearly half (47%) of registered nurses are prepared at the associate degree level, 90% of practical nursing and, the same is

true in allied health programs such as dental assistants, dental hygiene, radiographic, etc. Present cuts have reduced state supervision efforts, teacher education and staff development efforts, restricted travel, curtailed program growth and development, shortened programs and increased hiring of more part time faculty.

In Missouri, no new and expanding programs have been approved since 1980. As a result in FY82 8 new requests were devised. There was a 6% decline in postsecondary enrollments plus the 110 students who would have enrolled in new and expanding programs.

A number of local education agencies are hiring part time instructional staff to offset costs of indirect costs (i.e. fringe benefits) and faculty development activities. The quality assurance of these programs is in jeopardy because of the difficulty in the coordination of teacher/student activities from the classroom-laboratory to the clinical assignments.

Impacts of further cuts could severly curtail state supervision activities, necessitate further reduction in personnel development, further curtail new program development, and would possibly force retrenchment of existing program and staff.

A number of years ago, the health care agencies looked to education to provide health occupations education because it was too costly to provide quality programs in their facilities. Vocational education met the challenge and has provided quality health occupations education at an affordable price. The suggested fiscal constraints will place the burden of educational costs on the student. In 1974, you could enroll in a one year practical nursing program for around $300, today that program may cost upwards of $1400. Limited access to financial aide compounds the problem. Ultimately, further cuts would severely impact on the availability of a skilled health care

workforce to staff our health care delivery system.

Legislative Preference

Therefore, we recognize that vocational education and, more specifically, health occupations needs federal presence in order to maintain a quality health care delivery system. Although the cost of preparing the health occupations workforce is relatively high, vocational education has demonstrated its ability to prepare these individuals with most effective utilization of available resources. Without continued federal presence and funding, we assure you that the quality of health will decline and costs will continue to spiral.

Conclusions

Philosophically, health occupations education carries many hats. It is pragmatic in that the health care worker must be able to think, analyze trends and choose alternatives. It is essentialistic, in that the essentials of competencies must be selected and taught. It is idealistic in dealing with the dignity of humans in life and in death. It is realistic, in that it prescribes standards governing the implementation of health care services. Finally, it is existentialistic because it is based on the individual needs of the student and the consumer receiving the service.

Since the George Barden Act in 1954, health occupations education has made an excellent contribution through vocational education. Through health occupations education we have provided for competency based programs with provisions for career mobility and continuing education in an ever changing world of technology. Health occupations education is not for the other person, it offsets you, it affects me. We are entitled to the best.

Thank you.

Mr. KILDEE. Thank you very much. I am very aware, in my own city, of the role of the Health Occupation portion of vocational education; our local community college has a very good program in this area. My city has a high level of health care because of the contract between the United Auto Workers and General Motors. It is very important that such education be provided. I certainly concur with your testimony. All of you are here at a very good time. This is going to be a very crucial week in the budget process. What we do or do not do in that budget process will affect the future of many programs, including vocational education.

The Senate now is proposing a Federal spending freeze for vocational education for 3 years. That freeze would lock in a 16-percent cut for vocational education that has occurred at the national level over the past 2 years. It would not include any increase to cover the cost of inflation.

Senator Hollings is going to offer an amendment on the Senate floor today or tomorrow increasing the funding of vocational education by several million dollars to keep up with inflation. Anything you can do in your contacts with Members of the Senate to get support for the Hollings amendment would have direct salubrious effect upon vocational education.

In the House the Budget Committee is also proposing a 3-year freeze on the funding of all vocational education and elementary and secondary education programs, and then provides some $200 million as an increase for all these programs. This increase, however, is only half the amount needed to keep up with inflation. This amount must also be divided among title I, handicapped education, Indian programs, and vocational education. Clearly it is not at all sufficient.

Congressman Paul Simon from Illinois will prepare a floor amendment, which I intend to support, to increase this funding by $100 million, so that vocational education programs can at least keep up with inflation. That is a modest amendment.

In these times, with the position of Mr. Stockman and the White House, it is going to take support from people like yourself to pass the Hollings and Simon amendments to allow vocational education to keep up with inflation. Any work in the House and Senate you can do while you are in town to help pass the the Hollings amendment and Simon amendment, will be very helpful to vocational education.

I have exercised my privilege and invited my adviser in this area to join me at the rostrum. You should adopt a Congressperson to communicate with on education issues. Accompanying me is Dr. Alva Mallory from the Genesee Intermediate School District of Michigan. He adopted me as his legislator many, many years ago while I was serving in the Michigan House of Representatives.

I point this out because if you know a Member of Congress, or a State legislator you should work to be a good adviser, and to stay in regular contact with that person.

When Dr. Mallory calls my office, if I am not there he knows he will always get a return call from me personally. That is because we know each other. I trust his judgment and expertise. Get to know your Congressman as a vocational educator or someone from the private sector who is involved in vocational education. That is

very important at any time, but particularly in these times when the Federal role in vocational education is being so seriously threatened.

The economy of Michigan is the worst I have seen it in my adult lifetime. I was spared dealing with the Great Depression because I was too young when the stock market crashed in 1929, having been born only 3 weeks before that crash. My parents sheltered me from the fact that we were poor. With the current downturn in the economy and with the need for reindustrialization, particularly in a State like Michigan, it seems to me this is preeminently the time to expand rather than reduce our financial commitment to vocational education.

Vocational education, as Mr. Lockwood indicated, is tied to economic development. I liked your point very much well when you indicated that small businesses of 20 employees or less just do not have the resources to do their own training. That is where public education, particuarly vocational education, is very important and is closely tied to economic development.

It seems contradictory to me to have the administration saying we must reindustrialize this country at the same time that they propose a 32-percent cut in vocational education funding. That just is not good business, let alone good government.

I would think Mr. Stockman can find some money to establish a direct telephone line connecting the Department of Education with the Department of Commerce or the Department of Health and Human Services. Cooperation between and among these Departments is essential, because what we provide in training certainly helps the reindustrialization and economic growth of this country.

Dr. Brown, you mentioned that the excess cost requirement in the present law for disadvantaged and handicapped programs is comparable to programs in small and rural school districts. Could you expand on that? Since you are in favor of retaining this excess cost requirement, how can it be changed to treat small and rural districts fairly?

Mr. BROWN. That is a good question. I am not sure I have a good answer.

I think at this point there is still some debate as to the actual impact of the implementation of excess cost and matching costs. Some of the data from NIE and from other sources seem to be somewhat in conflict as to the actual impact upon those programs. But in terms of actually overcoming those problems, I am not sure that I have an answer for you at this point. I may have to defer that.

I hope the esteemed members of your committee would—I can provide additional documentation.

Mr. KILDEE. If you can do that it would be appreciated. I understand it is easier to ask the question than to answer it.

Mr. BROWN. I assure you I will give you more specifics within the week.

Mr. KILDEE. Mr. Brown, you are from Minnesota?

Mr. BROWN. Yes, sir.

Mr. KILDEE. We have been following the economic problems of Minnesota. As I am sure you are aware, Al Quie was ranking minority member of the committee before becoming Governor of Min-

nesota. I have nothing but sympathy and concern for him because he was a tremendous Member of Congress. He is in a situation that is probably more national in its character.

We have been told by Mr. Stockman that the States will be able to pick up the slack created by the decline in Federal funding of vocational education. Would you care to comment on that, particularly coming from Minnesota?

Mr. BROWN. Yes. At this point I think Minnesota may be representative of a variety of States.

In the past, Minnesota has been known for its above and beyond the call of duty in supporting vocational education, with the 1-to-1 matching ratios. We are just coming off a $1 billion shortfall in State income, cash flow. The State legislature just had three special sessions.

Unfortunately, at his point, in a State with a track record of such a commitment, even there we are not in a position, if the States are asked to pick up the shortfall, it is financially infeasible.

I think it is safe to assume, that the same situation is going to be the case in many other States. It is unfortunate that the move to reduce Federal input into programs in my case, for my interest with special needs populations, is occurring at the same time when most of the States, Minnesota, Michigan, many others, are suffering severe financial straits; there is just no way to do it. The special populations, vocational programs in general are assured of suffering.

With the influence of many groups, I assume it is safe to believe that one of the first areas to be cut would be that of special populations, programs for the handicapped, disadvantaged, LEP, bilingual, et cetera. It is a very discouraging position to be in. I certainly hope that the Federal Government will in some way find a way to continue the partnership and putting the onus also on the States to continue their side of that sharing relationship.

Mr. KILDEE. Does anyone else care to comment on the question of the role of the States assuming more funding responsibility because the Federal role is diminishing? As a matter of fact, it is not only diminishing; according to the administration's New Federalism proposal vocational education would be turned over completely to the States.

Mr. ROBISON. I would like to respond.

As I stated earlier, we have the same situation in Missouri, as just related to you, prior to a year or so ago we did have strong support from the legislature and I think we have a strong feeling with the legislature now, but they, too, are suffering the severe cut in cash flow.

As of last year there were no increases at the State level. Programs were hampered, curtailed last year; there were no new and expanding programs approved or authorized by my State. It is questionable whether or not we will do any this year. The decision has not been made. The legislature has not found the money to totally handle the requests made.

Right now we are getting requests from industry who are expanding. They have been willing to pick up a part of the tab. They will pick up the tab to some extent, as my colleague talked about earlier, on retraining, upgrading, but not at the preparatory level,

preparing people for work. It is my estimate they will not. They have not.

Mr. KILDEE. Mr. Lockwood.

Mr. LOCKWOOD. Yes. The issue of New Federalism obviously is one that is of concern to everyone, certainly business is not without its concerns also.

I think one of the things in trying to relate large businesses' requirements, and how they handle certain things, to the entire governmental process, from Federal to the local levels, that I can understand the concept of moving many Federal programs in the sense of administering them to the lower levels more close to the people, State and local levels.

One of the concerns I would have would be that if in fact the Federal Government stepped out of education, so to speak, and passed it off to States and local governments, that there would be a great deal of redundancy in let's call it the research and exploratory level as well as the establishment of let's call it national standards.

I would be concerned in that in fact we might, if I might coin a word, say that we would reduce the gross national productivity of this country if we were to in fact raise this level of duplication and redundancy, due to the fact that we did not have an effective universal program.

Mr. KILDEE. Thank you very much, Mr. Lockwood.

Minority Counsel, do you have any questions?

Majority Counsel.

I want to thank all the witnesses for their excellent testimony. This will be made part of the record of this committee.

Again I would urge you to specifically support the Hollings and Simon amendments in your contacts with members of the respective Houses.

Thank you very much.

The meeting is adjourned.

[Whereupon, at 11:05 a.m., the subcommittee adjourned.]

[Material submitted for inclusion in the record follows:]

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AFFILIATED WITH AMERICAN VOCATIONAL ASSOCIATION

AVA Beginning with People.. Building Toward Dignity

June 4, 1982

Congressman Kildee
House of Representatives
Washington, D.C. 20515

Dear Congressman Kildee:

During the May 18 Oversight Hearing on the Vocational Education Act you posed a question related to the excess cost provisions for serving special needs students. I believe your question was: "How can the excess cost provisions be modified to insure that small and rural school districts serve special needs students?" This letter will provide a more detailed response to your question.

1. It is generally acknowledged by the NIE Report (1981) and other studies, that some small and rural school districts encounter problems in documenting and reporting excess costs.

2. It was further acknowledged by the NIE study that the excess cost principle is vital to insuring that Federal funds are not used to provide the total cost of vocational education for special needs populations. When this occurs handicapped, disadvantaged, and LEP students are denied access to the state and local funds for their education which their non-special needs peers received. The excess cost principle has proven to be an effective mechanism for funding those additional services that special needs students need in order to succeed in vocational education programs.

3. Implementation of the excess cost principle has been handled in a variety of ways by the states. It is difficult to determine how stringent the criteria and procedures are that states have set up for local districts to

use in calculating and reporting excess costs. Some states appear to have procedures which require the documenting of excess costs for each student served. Other states have required only the documentation of the costs of special services (such as the salary of an aide) which are part of the vocational education program in which special needs students are enrolled.

8. Many small and rural communities do not have full-time vocational directors that understand thoroughly the state and federal regulations related to vocational education. Frequently, these directors are unaware of possible or appropriate excess cost and matching expenditure items. Most State Boards of Vocational Education have only one or two full-time staff assigned to consult with local districts on providing vocational education to special needs students. Often the state staff resources are not sufficient to help all LEAs in the state to fully understand the federal funding provisions.

9. The excess cost principle is fundamentally important and effective in assuring that fiscal equity is provided for special needs populations in vocational education. The basic problem appears to be implementation and management of the provisions at the state and local level.

The Department of Education should consider undertaking a major initiative to assist state and local education agencies to understand and effectively implement the excess cost regulations. This major initiative might include: (a) funding of a policy analysis study to determine the various approaches being used by states to document, calculate, and report excess costs, (b) an analysis of excess cost computation methods used in other Federal programs, (c) development and dissemination of a guide for administrators on excess costs, and (d) conducting a national training workshop for state officials on methods and resources for effective implementation of the excess cost provisions.

6. It should also be noted that the excess cost and matching provisions still tend to be considered simultaneously in many of the recent reports. We believe it is important to examine the two provisions separately because they were designed for separate purposes in the VEA of 1976. You

will note that in my revised Prepared Statement for the May 18 Hearing (copy enclosed), I provided separate recommendations regarding the excess cost and matching provisions.

I appreciate the opportunity to provide a more substantive response to your question. If you or the committee staff have additional concerns, I would be pleased to respond to them.

Sincerely,

James Brown
President-Elect
National Association of Vocational
Education Special Needs Personnel
An Affiliated Organization of AVA

JB/eb/jm

Enclosure

cc: Hon. Carl Perkins
Dr. Gene Bottoms
Dr. Robert Worthington
Dr. A. Allen Phelps
Mr. Wayne Grubb

OVERSIGHT ON THE ADMINISTRATION'S BUDGET PROPOSALS FOR VOCATIONAL EDUCATION

WEDNESDAY, MAY 19, 1982

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, D.C.

The subcommittee met, pursuant to call, at 9:45 a.m., in room 2175, Rayburn House Office Building, Hon. Carl D. Perkins (chairman of the subcommittee) presiding.

Members present: Representatives Perkins, Goodling, and Petri.

Staff present: John F. Jennings, majority counsel; Nancy L. Kober, majority legislative specialist; Richard DiEugenio, minority legislative associate.

Chairman PERKINS. The Subcommittee on Elementary, Secondary, and Vocational Education is continuing hearings today on the Vocational Education Act. This morning we will hear from representatives of the various instructional areas within vocational education.

We hope to touch upon several issues at this hearing. We would first of all like to hear the witnesses' views on the administration's proposal to consolidate the programs under the Vocation Education Act with the Adult Education Act programs and to cut the funding by 32 percent.

In addition, we are interested in learning the accomplishments, problems, and needs of the various disciplines within vocational education. Finally, we would like the witnesses to offer recommendations for improving the Federal vocational education legislation.

Our panel today is Dr. Alexander Schure, president of the New York Institute of Technology; Dr. Harry Drier, associate director of special projects, National Center for Research in Vocational Education, Ohio; Dr. Gary Meers, special needs teacher education, University of Nebraska; Dr. David Thomas, director of Milk Marketing Inc., in Ohio; Dr. Richard Lynch, professor, marketing education, Virginia Polytechnic Institute and State University.

All of you come around whose names I have called. Come around and take your seats here at this table. We will start with Dr. Alexander Schure. Identify yourselves for the record and proceed.

97-260 O—82——13

STATEMENT OF ALEXANDER SCHURE, PRESIDENT, NEW YORK INSTITUTE OF TECHNOLOGY (TECHNICAL EDUCATION)

Mr. SCHURE. Mr. Chairman and members of the subcommittee, I am Alexander Schure, president of the New York Institute of Technology. I appreciate the opportunity to address this distinguished subcommittee and I am here today to present the case for increased rather than decreased Federal support for technical education.

I will set forth some rationales why block grant legislation for career education is inadequate to address this country's vital economic and defense interests. I do have a written statement for the record and I would like to summarize it now.

[The prepared statement of Alexander Schure follows:]

PREPARED STATEMENT OF DR. ALEXANDER SCHURE, PRESIDENT, THE NEW YORK INSTITUTE OF TECHNOLOGY

Mr. Chairman, members of the Committee, I am Alexander Schure, President of the New York Institute of Technology.

I appreciate the opportunity to address this distinguished committee. I am here today to present the case for increased rather than decreased federal support for technical education. I will also set forth rationales why block grant legislation for career education is inadequate to address this country's vital economic and defense interests.

We know that skilled human capital is our nation's most essential resource. It is the reason we are the most productive country in the world. We have attained that status because we have long invested in human capital through education and training programs. Our prior successes argue we can ill afford to curtail these investments through reductions in federal support for technical education. The reason is clear. All of the manpower trends and indicators underscore an increased rather than lessened need for technically trained personnel to support the high technological society we have built. The maintenance of strength through high technology capacities is America's best weapon.

This administration has articulated and embraced several critical national priorities. They include: economic revitalization, increased productivity, full employment, improved national defense and enhanced partnerships among the federal, state and local governments and, together, with the independent sector, more government aid.

A reduction in federal financial support for technical education will severely hamper the attainment of each of these objectives.

Let me elaborate.

ECONOMIC REVITALIZATION

First, the impact of reduced technical education support on the goal of economic revitalization:

The demand for technical and skilled labor during the next two decades is increasing in almost every industrial and technical category. For example, the projected growth in technical employment between 1978 and 1990 for:

Computer science technicians, 92.5 percent.
Engineering and science technicians, 25.1 percent.
Broadcast technicians, 24 percent.
Entry level programmers, 29.6 percent.
Operating room technicians, 49.99 percent.
Radiologic technicians, 40 percent.
Dental technicians, 48 percent.

In computer service alone there will be 54,000 openings per year from 1978 to 1990.

A survey last year by the American Electronics Association estimates "that 671 of its members will create more than 140,000 paraprofessional spots (engineering aides, laser technicians, drafters, assemblers) and over 113,000 professional places (. . . engineers, computer analysts, and programmers) by 1985. [1]

These are only a few examples of the growing demand. These figures, however, do not reflect the future employment demand in industries which are just beginning to boon: robotry, aerospace, fiber optics, computer science, CAD/CAM, telecommunica-

tions, microelectronics—to name a few. Most of these new jobs will require high technology professionals augmented in larger ratios by the very paraprofessional support groups which will be adversely affected by the proposed legislation.

Many studies about this nation's technical manpower support these conclusions. [2] These reports highlight the attention given to professional level science and engineering and to research and development. They recommend, strongly, more support for the training of technicians and technologists, the products of our vocational and technical education programs.

If this, indeed, is the forecast of emergency needs now and tomorrow, we must ask, "who will finance the education and training necessary to fill these positions?"

I do not believe we can expect the states of the nation to pick up the burden and the projected reductions. The National Conference of State Legislators and the National Governors Association have both indicated in recent months that approximately 39 of the states will end their fiscal year in the red or with very minimal surpluses. Mine, New York, is not the only state having a problem with its budget stemming from what are different estimates of revenues vs. expenditures. A number of other states have already agreed, for the most part, on their deficits. Minnesota has estimated a deficit of $1 billion; California, a deficit ranging from $550 million to $1 billion; Ohio, $1 billion; and Oregon, $150 million. The last state has recently cut its assistance to public colleges and universities another 6.3% after having already reduced the appropriation for public colleges and universities from last year in the amount of $10.8 million. Another state in dire fiscal straits—Michigan—has recently had its Governor propose that the public postsecondary live without State funds from July 1, 1982 to September 30, 1982 so that the State may balance its budget. The Governor, in proposing that the four-year colleges and universities do without $136 million that they expected as due and the community colleges without the $31 million they believed due, has indicated that he would try, but could not promise, to restore the funds in the next budget year. I do not know whether or not Governor Milliken's proposal has been adopted or not, but it does not require a great deal of imagination to realize it unlikely that Michigan is a state that will be able to pick up the federal cuts its faces.

Likewise, the nongovernmental sector, to date, has never had the capacity to train and retrain all of its needed personnel. The principal reason is simple. The majority of technical workers in this country are employed by small companies with limited training resources and not by the large corporate conglomerates.

The education and training of technical personnel is costly. If undertaken on a mass scale by the smaller companies operating with narrow profit margins, the cost of domestic high technology will skyrocket further, fuel inflation and place this nation in an unfavorable position in international markets.

The more sensible approach is a creative federal initiative which finances more partnerships between these companies and the technical education establishment. With adequate financial incentives, more postsecondary institutions could help meet the technical manpower needs. Without outside assistance, they cannot purchase expensive equipment, finance maintenance, and/or replace and retool their facilities as needed to stay both solvent and technically current.

INCREASED PRODUCTIVITY

We face another critical concern—the relationship between the lack of support for technical education and this nation's declining productivity rate.

Human capital contributes to productivity. Although America is the most productive country in the world, we are rapidly losing our competitive advantage. Since late 1977 our annual rate of productivity gain has hovered near zero. This contrasts with certain other industrial nations like Japan, West Germany and France where the annual rate of productivity gain has been about five percent during this same period. [3]

Dr. Herbert Striner predicts that if "this disparity in productivity gains continues, by 1986, or 1987, Japan, West Germany and France will move ahead of the United States in output per worker." [4]

Like so many other analysts, Dr. Striner pinpoints the basic cause of this disparity. "These countries view their human resources as assets in whom they must invest. We do not." [5]

Our country still believes that people are important—that investments in human capital are as necessary as investments in machinery and plants.

This historic committment must be tangibly expressed in a strong federal policy which supports technical education. I do not believe the proposed legislation accomplishes this goal.

FULL EMPLOYMENT

Third—the attainment of full employment.

Although the current unemployment rate exceeds nine percent, this nation faces shortages in technically trained personnel.

These shortages could be met by increased technical education training for the minority population whose unemployment rate exceeds eighteen percent.

Women are another disenfranchised group. They must not be neglected in technical education. Two thirds of the new workers in this decade will be women. The biases which have excluded women from technical careers can now be eliminated, and the important goal of sex equity espoused by this administration can be met. It cannot be achieved if support for technical education is reduced just as women are entering the work force in large numbers.

The goal of full employment also mandates attention to the training and retraining needs of persons already gainfully employed. Educational capital expenditures are subject to obsolesence, as are equivalent facilities in industry. Because technology is rapidly changing new training programs must emerge. Many persons employed today will be unemployed within the next decade, when their skills and their jobs suddenly are no longer needed.

These three groups—minorities, women, the underemployed and potentially unemployed comprise the vast majority of the expanding workforce for whom technical education must be available.

Equally important is the opportunity to use technical education as a vehicle to break the cycle of poverty and economic depression which plagues so much of our population. Investment in human capital is a national social priority to aid the less fortunuate as well as a necessity to sustain the highly technical society which we have built.

Our failure to meet this challenge will have repercussions beyond unemployment. A federal retreat from technical education could accelerate the creation of a discontented underclass—heavily dependent on welfare.

Conversely, strong federal support in this area will be less costly. It will pay for itself through the obvious return to the federal government in tax dollars from the gainfully employed.

NATIONAL DEFENSE

Military preparedness, economic revitalization, increased productivity and full employment together have a powerful effect upon our national defense.

The increasing sophistication of military weaponry has increased the need for higher levels of techno-literacy. It is logical to assume that if the pool of technically trained persons available for military service were larger, our defense posture would be stronger.

While the military has become a major training ground for technicians, our armed services also depend heavily upon schools and colleges to help produce the technical personnel needed for our defense effort.

Moreover, the military competes with industry and other federal agencies for technicians and technologists. Industry is often able to lure these persons with more lucrative salaries and benefits, thus increasiang the turnover and the costs of technical training within the military. Increasing the total supply of technically trained persons would help to alleviate this problem.

The data and analysis are clear and convincing. There is an upward trend in the demand for technical personnel. A counter trend in federal financial support for technical education would have a devastating effect upon our economy, our defense capacity, our competitiveness abroad and in our quality of life in general. We must avoid this outcome.

NEW PARTNERSHIPS

Fourth, new partnerships.

This administration has declared its intent to increase the partnership between the federal, state and local governments as well as the private sector. Ironically, the proposed block grant legislation could have the opposite effect.

Technical education is a national agenda requiring strong federal support and leadership. This principle was established in 1917 with the passage of the Smith-Hughes Act.

The rationale given then for a federal, state, local partnership is equally valid and important today. It would be helpful to reiterate those reasons. [6]

It would provide an "in place" and "at ready" nationwide system which could react quickly to vital needs, military and economic.

It would provide an opportunity to serve national priorities.

It would ensure continuous opportunity in all of the states to combine the best of education with the best of training.

It would establish minimal standards for all states.

The federal investment would provide immediate and long range financial returns.

Workers were considered a national resource because they could find employment in states other than those in which they were educated. [7]

With block grants we face the prospects of:

Uneven quality control and standards,

Increased state burden in the funding and administration of these programs,

Lack of federal presence and consequent lowering of national priorities,

Non-uniformity of programs from state to state and within states,

Reactions by state legislators to local political pressure, and

Lack of impact when, in some states, more agencies apply for less funds.

These are only some of the reasons that the federal government should maintain a strong support of technical education programs. Our national government must visibly demonstrate and reinforce the importance of technical education as a national priority. It must counter the trend toward what some writers describe as "anti-blue collar arrogance which causes kids to shun skilled trades." [8]

All of us—the partnership about which we speak—must work together to give technical education the same significance we give to scientific and high technology research and development.

RECOMMENDATIONS

For all of the reasons I have cited I urge this committee to reconsider and substantially strengthen the proposed Vocational Education Reauthorization Bill by incorporating the following changes:

Provide for increased funding to the minimum $800 million recommended by the American Vocational Association.

Establish clear setasides for women and minorities to redress the imbalances of the past.

Provide explicit support and incentives for postsecondary education to offer increased career education in technical fields.

Include the development of a national service program that would assume a significant training role, while providing service to economically depressed areas and populations.

Incorporate explicity national standards for quality control, insuring a fair and consistent return on this investment of tax revenues.

The proposed legislation represents three opportunities that I would like to underscore for this committee.

(1) The bill promises to use tax revenues more efficiently. This opportunity must not be lost.

(2) The bill also promises to continue providing technical training for students who depend on V.E.A. funds in their search for jobs and social advancement. I speak here of literally thousands of students in New York City and on Long Island. This bill must deliver on that promise.

(3) Finally, the bill promises to undergird our national economy as we struggle to regain our commercial and technological leadership.

This is a promise of the most serious national consequence, one that I am sure the committee will make every effort to fulfill. I urge the committee also to consider dramatic new utilizations of our human capital as a device for containing overall budgetary expenditures. In the prepared statement which is available for the record I suggest a possible human capital long term approach which could yield $50 billion or more, in effect, for useful, national priority efforts.

What I am suggesting to you is that the idea of public service is so powerful that it makes the reduction of funds called for in the proposed legislation a minor consideration. Let me explain.

There are compelling academic, economic and social reasons for master planning a structure capable of integrating the best of lessons learned from the tens of billions of dollars expended annually for education. These dollars are poured into a system that leaves vast segments of our youths disillusioned by their experiences and often discouraged from continuing the development of their skills and attributes.

The education process itself, with appropriate certification, can be interwoven into the very fabric of the social agencies that are presently so burdensome in their upkeep to the American people. Through the use of labor overlays, coupled to appropriate incentives, human resources can be found to attack every major dislocation plaguing our society.

Where and when successful programs are identified, their replication again and again can have profound positive nationwide effects on our morale, safety, health, manpower training efforts, productivity and economics. Our institutions can be made more responsive, more relevant and less clumsy in serving their constituencies.

Education is now given to all, willing and unwilling recipients alike, with little expectation of immediate social return. The process is not free as testified by the recent closings of a number of public and private schools at elementary, secondary and college levels. Society should ask for a more immediate benefit on its educational investment by requiring public service as a condition for public support of education. When the returns are assessed on human capital invested in directed and gainful public aims, the efforts are startling.

The public and private higher educational institutions of our nation should begin the process. They could pioneer bold and innovative inter-institutional cooperative formats which orient educational missions so as to use faculties and students as human capital in agencies other than their schools. In the cycle, they should design mutually advantageous situations which allow them to assess budgets now relatively non-supportive to education. Further, the methods developed should be used to check ever-escalating economic costs of providing needed governmental services.

A set of general recommendations and procedures for consideration follows:

1. Form task forces and reorganize academic curriculums and continuums for education and training, oriented to solution of the nation's programs. Structure cooperating academic industry labor-government community boards to assist in the development of achievement and task standards for job cluster levels.

2. Organize a new entity, the middle college, which articulates the 12th grade level of high school with 13th and 14th grade levels of college into a three-year continuum; use one of the three years for a program of a mandated "career year" of social service, certifying students for high school diplomas and associate college degrees simultaneously upon completion of academic and social service requirements.

3. Move away from the philosophy of education which defers return upon public social investment in its people for decades. Arrive at the equivalent of a new "GI" bill. Legislate the year of mandated experiential training into the above three-year sequence, allowing payment for student services in governmental issued scrip. Redeem the scrip for continuing education.

4. Share educational cost savings among the participants as a result of the elimination of one year of redundant education.

5. Utilize modern educational concepts and technology, including the external degree, models for accountability and education in occupational education and other valid innovations.

6. Reorient faculty missions in such middle colleges through a National Career Service for both students and teachers, while encouraging opportunity for experience in work cooperatives with labor, industry, government and community.

7. Integrate electronically, supplementary community and regional mini-school centers for career education through the use of such resources as cable television and multi-television linkages.

8. Repeat the process at an additional level to allow a two-fold overlay factor, first at the middle college (former years 12–14), and again at the upper college (former years 15, 16, and 17). Envision the latter as a three-year baccalaureate and master's program with a second mandated year of internship incorporated into the master's at the graduate level.

9. Use the total thrust of this educational reorganization to solve the fiscal problems of education; unlock the potential resources of the large manpower pool available in our educational institutions in the form of students and teachers; move them outward into society so as to increase efficiency and reduce costs of necessary social services; couple the outflow of such "people power" to meet the human and fiscal problems besetting our society; structure the education process itself, with appropriate certification, so it becomes interwoven into the very fabric of social agencies to make them less burdensome in upkeep to the American people.

In detailing the approaches of the proposed programs through which the economic advantages accruing from the introduction and replication can be utilized on a national scale, several highlights should be emphasized:

1. The advantages of incentive systems should be utilized to a maximum. In particular, whether these incentives are for management in the form of increased labor productivity or tax reductions; or, whether they apply to labor in the form of security through job cluster; or, a type of "W.P.A." operation with absorption, by government and society, of manpower in such areas as sanitation, police protection, environment, health, consumer protection, welfare, old age care, day care centers operation and mental health care, the net result must be an expansion of national productivity, economy and benefits for all. In effect, the approach permits a massive labor overlay, where labor, while itself gaining substantial advantages, can spin off secondary benefits for others while gaining substantial advantages for itself.

2. The national service reorientation of teachers and students also requires amplification in terms of its organization and constituency. It should be apparent that representatives from societal agencies as well as from labor, industry, academics and community must constitute part of the task force involved in the development of certification and standards. In fact, the relevance of reorienting educational programs to the mission of solving massive societal problems requires mutual acceptability of, and from, all sources concerned.

3. The scrip system to which reference is made can add to the incentive system previously described through additional scrip bonuses or awards as part of the incentive system, again redeemable for continuing education training made available by a National Career Service. The additional compensation can be for less desirable or more hazardous occupations, non-prime times or conditions or for particular results obtained.

This view of interrelationship of the work environment and the educational process will mean change for the institutionalizing of new processes between groups, at levels not previously achieved. It means attention to newer kinds of programs in human relations, skills training, remedial education and job restructure. It means a new approach wherein universities, in cooperation with governmental agencies, business, community and organized labor, mount radically restructured, societally-oriented educational programs, specifically designed to augment present work force potentials. Such policies must give acceptable initiative to existing labor leadership, include their persuasion and that of their membership that benefits will indeed accrue to them by expansion of the educational program suggested herein. It will be the responsibility of the task forces developing these programs to ensure "bread and butter" returns as incentives for acceptance of programs which have caused dysfunction in the past.

Application of these principals could have multiplying effects if coordinated with programs developing in national, state and local scenes. They are based upon fundamental and simple considerations.

Implementation of the outlined proposals will not be simple. A series of alternatives must be developed for the government, business management and union agencies involved. Such participation is necessary to ensure acceptance of any valid possibilities for developing the projected educational thrusts.

Government efforts will be needed for formalizing availability of job-related education and training within government and municipalities. Presently, management upgrades people in accordance with occurrence of labor market needs. The proposal calls for integration of education and careers. The mores of both must be considered.

Management sources normally reject radical change in personnel or production unless economic incentive and profit are visibly demonstrated. Historically, in times of economic recession, both management and labor tend to resist programs which upgrade skills. History indicates, too, that employees are not anxious to become involved in upgrading programs requiring major outlays of their time or money. Periods of economic ebb require strong incentives to achieve success.

Organized labor will not normally support new programs, unless the benefit to its membership is substantive and the process accomplished without damage to the union's structure, leadership and dominion.

Pools on priority interests at the bargaining table place mobility, increased public opportunities and training options far down on worker's lists. An interacting program offering workers such increased incentives as paid sabbaticals, shorter work weeks, upgrading, expanded opportunity for retraining and longer vacations could reduce the problems which previously have prevented successful implementation of coordinated concepts vital to our nation's prosperity and well-being.

Consider New York State as an example of the potential of this process. Committed expenditures for high school seniors in New York State for the fall of 1970 were in excess of $300,000,000. Assume that articulation and compression of a "middle college" as previously described is successfully accomplished. The first year of expe-

riential training effects a manpower service value (713,157 students × one-fourth × $11,000) worth $2,961,000,000 to the State.

Were the process to be repeated for approximately 75 percent of the present more than 700,000 students enrolled in public and private colleges of New York State, a labor pool of more than one-half million students would become available. Extrapolating this at the average median salary of $6,500, payable in scrip, a talent of ever-increasing skilled interns' pool worth three and one quarter billion dollars annually becomes available in New York State alone.

In Florida, the equivalent of this figure is approximately $640,000,000.

A conservative extrapolation on the national scene of 11,570,000 students results in a figure of more than 100 billion dollars.

The administrative structure necessary for implementation and guidance of a thirty billion dollar effort could serve to reduce present unemployment levels. The emphasis would focus on crime and drug prevention, reconstruction of our inner cities, cure of their social ills, welfare, solutions to ecology . . . in short the regeneration of our society.

An American President once said, "The only thing we have to fear is fear itself." What has been proposed is a means to eliminate some of our national fears from the minds of men and women in all walks of life through a program designed to reorient, re-education and revitalize our people in our nation. America still stands as a tower of strength in a turbulent world. It can use the talents of its citizens to remain so.

Thank you for the privilege of setting forth these views.

NOTES

1. Choate, Pat and Epstein, Noel. "Workers of the Future Retool! Nothing to Lose But Your Jobs." Washington Post (Sunday, May 9, 1982): D1, D5, and as per phone conversation with Kay Storm Mesa of the Palo Alto office of the American Electronics Association.

2. A number of studies have been made in the last few years to analyze the causes of this erosion and to find ways to prevent further slippage. Study groups have been organized by the Committee for Economic Development (1980), the National Research Council (1978, 1979, and 1980), the Department of Commerce (1979), the Industrial Research Institute (1980), to name a few. The National Academy of Engineering published a report in 1980 highlighting previous studies. In 1980 a special issue of *Technology in Society* presented analyses by twenty-one leading economists and technologists of our economic ills with their prescriptions for amelioration.

3. The Economist, (February 27, 1982): 42 as reported in Striner, Herbert E. "Why We Must Invest in Human Capital." VocEd, Vol. 57 (May 1982)4:22–25.

4. Striner, Herbert E. "Why We Must Invest in Human Capital." VocEd, Vol. 57 (May 1982)4:22–25.

5. Ibid.

Statement of Dr. Gene Bottoms, Executive Director of the American Vocational Association before the House Appropriations Subcommittee on Labor, Health and Human Services, and Education. March 30, 1982.

7. Choate, Pat and Epstein, Noel. Op cit.

Mr. SCHURE. The essential theme I want to present to this subcommittee is that skilled human capital is our nation's most essential resource, the reason we are the most productive country in the world, and I submit that the maintenance of strength to high technology capacities in America is America's best weapon both socially and for a defense posture.

The current administration talks about economic revitalization, increased productivity, full employment, improved national defense, and enhanced partnerships among governmental and nongovernmental sectors. I believe that this reduction will severely hamper the attainment of these objectives.

Let me elaborate briefly. With respect to economic revitalization, current statistics indicate growth requirements in current technical careers ranging from 100 to 50 percent for virtually all categories. As an illustration, in computer service alone, there will be more than 54,000 openings per year, from 1978 to 1990, and the

American Electronic Association indicates that more than one-quarter of a million new professional places and paraprofessional spots will be required in the next 3 years, and these are only examples of the growing demand.

What we have not touched are the future employment demands in industry just beginning to emerge, aerospace, fiber optics, computer design, microelectronics, computer education, just to name a few, and obviously for these new situations we are going to require high-technology professionals.

Virtually all of the studies about this Nation's technical manpower support these conclusions. My formal presentation includes the statistics, and I will not reiterate them here, but it is simple to ask if indeed on the national scene there is a forecast of emergency needs now coming up, who is going to finance the education and training necessary to fill these positions. It is unlikely, really, to believe that the States are going to be able to pick up this burden.

The National Conference of State Legislators and the National Governors Association have both indicated in recent months that approximately 39 of the States will end their fiscal year in the red, or with very minimal surpluses. Mine, in New York, is one which is having its problems in trying to determine the realities of the different estimates of revenues versus expenditures, but in other States, Minnesota estimates the deficit of $1 billion; California, a deficit ranging from $50 million to $1 billion; Ohio, $1 billion; and Oregon, $150 million. Buried in those statistics are stories dealing with the revocation of predicated funds to institutions, $31, $130 million, and so on.

Historically, the nongovernmental sector as well as the governmental sector never really has had the capacity to train and retain all of its needed personnel. There is a very simple reason for this. The majority of technical workers in this country are employed by small companies, with limited training resources, and not by the large corporate conglomerates. It is expensive to train technical personnel.

Now, it is not enough to come forth and merely set problems on the record. It seems that a more sensible approach would be a creative Federal initiative which arranges more partnerships between all of the interested companies and the technical education establishment. These financial incentives are required.

We have another national concern; increased productivity. I can summarize all of the statistics. I don't want to read this paper to the distinguished subcommittee. In effect, the predications are that it is quite likely by 1985 that Japan, Germany, and France will move ahead of the United States in output per worker. Our institution produced a major piece of equipment which impacts on the motion picture industry. Without ever having seen this equipment before, four Japanese animators, after 4 days, produced 10 times—10 times—the output of the American worker.

The real rationale, though, and I think the blessing, is that our country still believes that people are important, and that investments made in human capital are as necessary as investment in machinery and plant.

To do this we need something which is real, a commitment of a strong Federal policy which supports technical education. I don't think that the proposed legislation accomplished this goal in full.

With respect to the attainment of full employment, we see the tremendous needs for reeducation of the minority population, and really women still as a disenfranchised group, neglected in technical education. Two-thirds of the workers in this next decade are going to be women. Our economic conditions demand it. The goal of full employment also requires attention to the training and retaining needs of persons already gainfully employed.

When I read the new industries, it is kind of a sign that technical careers come and go, and many persons employed today will be unemployed within the next decade, when their skills and their jobs are suddenly no longer needed as a result of the new technology. So we have these three groups, minorities, women, the underemployed, and the potentially unemployed, as the vast majority of the expanding work force for whom technical education must be available.

Technical education has always been a means to break the poverty cycle. It would be sad to see a Federal retreat, because I believe that this could accelerate, literally, the creation of a discontented underclass, one heavily dependent on welfare, and I think that the record of the past few years speaks to this point.

We have made a major commitment to national defense, but national defense cannot function without the requirements of skilled technicians, and the increasing sophistication of military weaponry has increased the need for higher levels of technical capabilities.

All of this data, and virtually all of the trend, really are quite clear and very convincing. Simply, there is an upward demand for technical personnel. Our requirements are becoming more sophisticated, and any countertrend is going to be damaging.

We talk, finally, of new partnerships. If we go back to the old Federal incentives for Smith-Hughes, we find a series of rationales which are as strong today as they were then. Were we to replace the objectives of an in-place and ready nationwide system, an education that serves national priorities, a provision of continuous opportunity in every State to provide the best of education with the best of training, we would find immediate and long-term financial returns to the Federal Government for each investment made.

Block grants probably tell us that we will have unequality control, increased State burdens in funding and administration of these programs, a lack of Federal presence. It means our national priorities will not be addressed uniformly.

Finally, a major loss of impact, when in some states the agencies apply for less funds.

For all of the reasons that I have given, I urge this subcommittee to reconsider and substantially strenthen the proposed vocational education reauthorization bill, by incorporating these changes.

Provide for increased funding to the minimum $800 million recommended by the American Vocational Association.

Put in clear set-asides for women and minorities to redress the imbalances that we have had.

Give very specific support and incentives for post-secondary education, so that we can increase career education in technical fields.

Most important, Mr. Chairman and members of the subcommittee, consider the development of a national service program that would assume a significant training role and provide service to economically depressed areas and populations.

There are opportunities in the proposed legislation that are very favorable and that I would like to underscore. The bill promises to use tax revenues more efficiently, and this is good. The bill also promises to provide technical training for students who depend on DEA funds in their search for jobs and social advancement, and I hope the bill delivers on that promise.

Finally, the bill promises to undergird our national economy as we struggle to regain our commercial and technological leadership. You know America used to be first at one time. It really used to be first, and we don't seem to hold that position anymore. I think that we should regain it.

These promises are exceptional. I hope they are delivered. In the prepared statement I have suggested a human capital approach, which could yield $100 billion in utilization of human capital, in effect for useful and national priority programs, and my suggestion is over the long term that the committee in its deliberations seek some new and dramatic steps that are as pertinent in today's times as Smith-Hughes was at the time it was passed.

I thank you for the privilege of setting forth these views.

Chairman PERKINS. Thank you very much.

Mr. Harry Drier. Go ahead, Mr. Drier.

STATEMENT OF HARRY DRIER, ASSOCIATE DIRECTOR FOR SPECIAL PROJECTS, NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDCUATION, OHIO (GUIDANCE)

Mr. DRIER. Mr. Chairman and Members of Congress, I am Harry Drier, former teacher, vocational director, counselor, State supervisor, guidance, president of the Guidance Division of AVA, president of the National Vocational Guidance Association. But today I speak on behalf of the Guidance Division of the AVA as its past president and longtime member of the vocational community who is committed to the unification of guidance and counseling and vocational structure at all levels.

This opportunity to testify today regarding the potential career guidance impact for youth and adults resulting from the administration's budget proposals and consolidation proceedings for vocational education is most appreciated.

To us, your invitation today illustrates your obvious sensitivity and realization that career guidance does play a critical and central role in preparing our Nation's labor force for productive, satisfying and effective work, but also home and community life.

To serve as a foundation for the effects, information I would like to share with you and some recommendations for both language and legislation in a Federal role, I would like to point out the five basic cornerstone premises that is represented by the Guidance Division of AVA holds true.

First of all, we need to see legislation that talks about guidance as a program, one that is developmental, one that has substance, that deals with the life survival skills, basic skills of self-apprecia-

tion, value of other people, the value of work. It does have staff, over 200,000 staffworkers throughout this country in 25 different agencies in most of the major cities. It does have tested and effective methods and resources. It just needs an opportunity to work.

Second, it is developmental. We now know enough through theory and research that there are unique opportunities within a young person's life and adult's life where guidance connected with training and work experience makes a more productive worker and community member.

Third, we want to stress on the strengths and competencies of our individuals, both youth and adults, and not be put into a position of only stressing problems and crises that occur.

Fourth, we are building a team. We want to be full partners with vocational trainers, with employers and other community leaders. We need an opportunity to play that role.

We see that guidance and counseling could be that one of those major links between the school, the family, the individual involved, and the employing community. We think new legislation should help build that case, and give us the opportunity to work in that way.

Let me point out just a few major problems that we face at the present time. Even given the good years of the sixties and the seventies, where we had a number of guidance resources to use in our schools, one way of demonstrating some of the problems that we have today, which would be exemplified if we were cut or reduced or eliminated altogether, that when you look at the rural schools, as an example, many of the projects that we have had at the research center funded through Federal funds, looking at 7,000 rural schools, you cry to see the lack of any potential staff, any resources, any budget, any commitment helping to build the value system, the attitude for work, and others within rural schools.

Less than 50 percent of our youth, elementary and secondary, have an opportunity for guidance exposure during their 13-year public school experience. No wonder they don't choose vocational education like they should, and make poor choices within vocational education when they do.

You look at our large urban schools. I can give you statistics in the paper that the 10 largest schools in this country, the cities and school districts, counselors are dealing with 8,000 to 9,000 students on a daily ratio.

What can you expect in terms of preparing those young people to make choices in vocational education, make choices about work and to make choices about life in general. You can go on into the correctional institutions. You can go into the other 25 agencies where counseling is provided, and you can see, even today with the funding that we do have, there is a critical need to both operate and retrain those people and improve those programs, by doubling or tripling them.

Next, I would like to talk about some of the possible effects, the real effects, that we have demonstrated through past funding, especially since 1983 when guidance and counseling has been most prominent in various sections of the law, and I have looked at, and in the activity I have looked at, what the Federal Government has said about their investments. If you look at the Office of Career

Education, you look at the Office of Vocational Adult Education, at the Department of Labor and other agencies, we have much evidence now demonstrating that if you use demonstrated-to-be-effective practices in counseling, guidance, and career information, that is supported over a long period of time, there is dramatic effects that deal with many of the Nation's problems of both youth and adults.

I would like to point just a few of those out. First of all, in terms of long-term effects, we have at least two national longitudinal studies that have been looking at youth for 25 years. There is no doubt any longer that when you combine guidance with instruction, when you combine counseling with interventions with parents and teachers, that in our studies 25 years after the child has left school, has been exposed to that mix of instruction, counseling and guidance, that they are better producers on the job, they have less problems in the city, they have less problems in the home, and they are a much better citizen in this country. We have much data to prove that.

Second, students exposed to quality longitudinal types of guidance and counseling are higher in academic achievement. Their career plans are much more realistic. They make better choices into vocational education and within vocational education, and they make the crosswalk to employment much easier and quicker, and maintain much higher salary levels, and so on.

At the elementary grade there is no doubt in our data now that if you deal with young people soon enough, in terms of attitude development, value instruction, and so on, that achievement, self-abuse, all the other factors and problems that we are dealing with are decreased, when instruction in guidance and counseling are combined.

At the junior high school level the one major element to reducing dropout rates and tardyism and self-abuse and disruption in the school is when you combine a personal, social, counseling and guidance program with the instructional fabric of the school.

We all know at the high school level why our youth are not finding, acquiring, or keeping work. It is not their academic performance. It is not that they don't have the psychomotor skills and so on. They just don't know how to cope with supervision, and so on. Our statistics would show as a part of the past investment, given through the vocational education legislation since 1963, that when you mix guidance and counseling, developmentally over time, during that academic and vocational instructional period, those youth learn more and transfer more to the workplace. They do not lose their job because of coping behavior problems.

I could go on. When you look at returning youth from prisons, when you look at the educable mentally retarded and many other groups, when you combine counseling and guidance services to the instructional fabric of that institution or agency, there is a different kind of result. The result is a more productive worker.

When we talk about the possible effects of both reductions or eliminations through block grant arrangements or whatever, it is tragic to think what might happen to our field. In preparation for this testimony, we had our networks working, and we called 10 States and asked the State supervisors of guidance in career educa-

tion and others what would be the effect tomorrow if in fact we lost what we had within section 134 of the current bills or if the moneys were to flow to block grant or if we didn't lack in career education that supports guidance and counseling like it does now.

It is quite evident in the paper I will submit, which gives more detail, that we will no longer have State leadership in guidance and counseling. Where we have State staff, it will be more for supervisory and more mechanical kinds of assistance. We will lose all of our technical capacity to improve programs. There is no doubt about it.

Many of the systems like career information systems would be reduced or eliminated. One of the big advances we have made through the NOICC and SOICC systems during the last 78 years is that we now have a credible available low-cost informational system that vocational planners, teachers, parents, and counselors depend upon and now have that, that would be eliminated or reduced severely in many States.

I talked to the State of Maryland. They said next year that 500,000 persons who are now receiving some form of benefit through the set-aside funds in vocational education would lose that if we went to block grants.

We see every day, as I looked at the Washington Post yesterday, intriguing articles about how guidance and counseling does in fact impact upon some of the social and economic problems within a given community.

I would like to make two sets of recommendations on behalf of the guidance division of the American Vocational Association. The first would be what do we think should be the Federal role, both the continued role or expanded role.

First, there is no doubt in our mind that the Federal Government has to support some kind of an occupational analysis information system for the States and local communities. We need something like a NOICC and a SOICC system so we can depend upon data for planning and for decisionmaking.

Second, we need to have a Federal relationship role present in guidance and counseling in the Office of Vocational and Adult Education. There is no doubt about it. We have much duplication of effort, much waste of funds, if we didn't have some form of leadership at the Federal level, both in terms of training, methodology, theory application, and so on.

A fourth one is in the whole area of upgrading and retraining of the 200,000 professional staff we have in this country. There are some inequities across State lines. We need somebody to provide some standards, and so forth, for the upgrading of staff.

In terms of specific recommendations in legislation, the strongest, if we were to make one recommendation, would be that as the language is developed in the new legislation, that guidance be mandatory and not seen as a peripheral and ancillary service within vocational education.

No. 2, that within the basic State grants, there needs to be provisions for the improvement and expansion of guidance. Our basic concern here is that when we teach about arithmetic or computation, when we teach about work, that guidance and counseling

needs to be involved in the fabric of all the teaching learning process.

Recommendation 3 includes programs for individual communities in depressed areas. We need to make sure that the caveats, the problems in the rural schools and urban schools are overcome. One way of doing it is by a Federal presence and Federal support.

We need to continue, we think, in supporting national research and development through national centers, labs, or whatever, that if we don't have a Federal presence in research and testing of methodologies in our field, that we will lose the kind of impact that we have right now.

Recommendation 5 is that we need to assure that in legislation that we assist States and local districts to plan to build guidance and counseling into the fabric of vocational education.

Next, we need to make sure that at the State level, we have some semblance of leadership and staff to give guidance and counseling support and leadership throughout each State. The same recommendation and another recommendation would say that in the Office of Adult and Vocational Education, we haven't had leadership for the last 15 years. We think it is about time that guidance and counseling has a visible supported quality set of staff to give guidance and constant leadership throughout this country.

The last one would be to support and continue the improvement of the whole career information system and occupational analysis that we have. It is the cornerstone to what we do in counseling and guidance. If we don't have credible information, we are going to be criticized like we were in the fifties and sixties about misinforming our youth. We are at a point now of having good information to help people choose. I would hate to see the Federal role give that away, because we would lose it and we would never be able to pick it up again.

These are our recommendations. We thank you again for the opportunity to testify here today. We commit ourselves and all the members of the division to assist Congress and others to make sure that the language is clear and concise and complete in the next round of legislation preparation.

Thank you.

[The prepared statement of Harry Drier follows:]

STATEMENT BY HARRY N. DRIER, ASSOCIATE DIRECTOR, NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION ON BEHALF OF THE GUIDANCE DIVISION, AMERICAN VOCATIONAL ASSOCIATION

Mr. Chairman and Members of Congress:

I am Harry N. Drier, former teacher, vocational director, counselor, state supervisor of guidance, past president of the American Vocational Association's Guidance Division and the National Vocational Guidance Association and currently serve as a board member of the American Personnel and Guidance Association. Currently I also serve as an associate director at the National Center for Research in Vocational Education where I have responsibility for career guidance research, development, testing and training.

Today, I speak on behalf of the Guidance Division of the American Vocational Association as its past president and as a long time member of the vocational community committed to the unification of guidance and counseling and vocational instruction.

This opportunity to testify today regarding the potential career guidance impact to youth and adults resulting from the administration's budget proposals and consolidation proposal for vocational education is most appreciated. Your invitation illustrates your obvious sensitivity and realization that career guidance does play a critical and central role in preparing our nation's labor force for productive, satisfying and effective work, home and community life.

Basic Premises of Career Guidance Programs

Fundamental to the understanding of the importance, current effects and potential of quality career guidance programs is a

description of its substance, delivery and its integrated place in any comprehensive education and training program. Important also to this understanding is to realize that we believe programs of guidance and counseling must be central, not peripheral, to the delivery of all work-related learning experiences. The following five basic premises form the foundation for needed ongoing support, expansion and improvements in vocational education and training legislation, and guidance and counseling programs which are critical to our schools and institutions as they attempt to fully assume their roles in responding to our nation's priorities.

First, guidance is a program. As a program, it has characteristics similar to other programs in vocational education, including:

a. learner outcomes (competencies) in such areas as self knowledge and interpersonal relations, decision making and planning, and knowledge of life roles including worker and learner roles in the form of a guidance curriculum;

b. activities and processes to assist learners to achieve outcomes such as these;

c. professionally recognized personnel; and

d. materials and resources.

Second, guidance programs are developmental and comprehensive. They are developmental in that guidance activities must be

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conducted on a regular and planned basis to assist young people and adults to achieve career development competencies. While immediate and crisis needs of individuals must be met, a major focus of a developmental program is to provide individuals with experiences to help them grow and develop. Guidance programs are comprehensive in that a full range of activities and services are provided including assessment, information, counseling, placement, follow-up, and follow-through.

Third, guidance programs focus on individuals' competencies not just their deficits. To some, a major focus in guidance is on the problems individuals have and the obstacles they may face. This often focuses on what is wrong with individuals, not what is right. Obviously, problems and obstacles need to be identified and remediated, but they should not overshadow the existing or potential competencies of individuals. A major emphasis in guidance and counseling programs should be on helping individuals identify the competencies they already have plus assisting them to develop new competencies.

Fourth, guidance programs are built on a team approach. A comprehensive, developmental program of guidance is based on the assumption that all staff have teachers and administrators who see themselves as being involved rather than thinking it is all up to counselors. At the same time, it should be understood that professionally certified counselors are central to the program as coordinators. In this role, they provide direct services to

individuals as well as work in consultative relationships with other members of the guidance team.

Fifth, guidance programs mandate articulation. A basic assumption underlying comprehensive, developmental guidance programming is that there is effective linkage between comprehensive high school guidance programs and those located in area vocational schools and postsecondary institutions. This means that there is program continuity; that those activities begun in the comprehensive high school are carried on, as appropriate, in those area vocational schools and postsecondary institutions. This means that the guidance staffs of these institutions meet together on a regular basis to exchange information to update their programming as new student needs are identified.

THE PROVIDERS, SETTINGS, AND EXPECTATIONS OF GUIDANCE PROGRAMS

Guidance has become a major endeavor and element of our nation's educational, employment, training, and numerous community agencies. Systematic and development programs of guidance and in some agencies, counseling programs, serve as the common link between providing occupational training and employment readiness for the eventual transition to and satisfaction in the workplace. Guidance programs are operating to varying degrees of completeness in a wide variety of settings. At the secondary level, guidance and career development instructional providers are represented in public and private comprehensive and vocational high schools. At the postsecondary level, vocational programs including guidance are offered by colleges and universitites, community and junior colleges, area vocational schools, public and private noncollegiate postsecondary schools, correspondence schools, and correctional facilities to mention a few. In addition, thousands of professional counselors and guidance personnel are employed through the U.S. Department of Labor's Comprehensive Employment and Training Act (CETA) and by the Employment Service, with offices in the majority of the nation's cities. Table 1 profiles both the type and number of agencies nationally as well as the approximate number of enrollment or clients being served.

Within each of these institutions or agencies professional counselors and a variety of guidance specialists and support staff provide guidance program leadership and services. Table 1 reflects the approximate numbers of staff that typically are available as well as the numbers of clients that require or request guidance and counseling assistance. While the data provided suggests that there is a range of guidance staff available, there is striking evidence to suggest it is not sufficient. One major problem that occurs is the uneven distribution of staff availability in certain settings. As an example, if one were to view the staffing profile and the availability of guidance programs in our nation's 7,000 rural and isolated schools, there would be cause for alarm. It is estimated that in these locations, less than 10 percent of elementary students have access to guidance programs, while at the junior high and high school level less than 40 to 50 percent of these students have access to guidance programs. Furthermore, the staff is often only part-time employees and has little or no budgets specifically for guidance.

In some of our largest states and cities the counselor-student ratios in public schools also is greater than the American Personnel and Guidance Association recommended ratio of one counselor for every 250 students. In a large Midwestern state the ratio at the high school level is 1 to 630. The average of combining the ratios of four of the ten largest cities

in the United States would approximate 1 to 740. Additional examples of inadequacy of staff levels, programs, and resources could be cited in correctional settings, and in a variety of community agencies. When one parallels these facts with the increasing needs of youth and adults who are facing deficiencies in basic skills, dropping out of education before they are prepared, encountering unemployment, lacking employability skills and access to training and work opportunties, it is clear that improved guidance delivery is needed. Guidance programs can be responsive to society's problems and the needs of clients only if they are available on an equitable basis, fully staffed with a competent set of professional and paraprofessional staff.

It is also important to point out that, in addition to professional counselors, who perform a variety of roles and functions, there is and needs to be available a wide variety of other helping professionals that make up the total guidance program team, such as:

1. Placement specialists
2. Career information specialists
3. Career exploration instructors
4. Career investigation teachers
5. Career advisors
6. Volunteer paraprofessionals
7. Public personnel workers
8. Career center directors
9. Work experience specialists
10. Work study supervisors
11. Career education coordinators

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Table 1

Providers and Recipients of Work-related Education, Training, and Guidance

Settings	Number of institutions	Enrollments	Counselors and Guidance Specialists
1a. Public Secondary Schools (combination of grades 7-12)	15,729	13,111,000	61,450
1b. Public and Private Secondary Schools (those that provide vocational training) (1979)	5,569		19,696
2. Private Secondary Schools	986	1,400,000	1,220
3. Junior and Middle Schools (public and private)	Covered in 1 & 5	Covered in 1 & 5	9,100
4. Elementary Schools (public and private) (1977)	61,123 (public) 11,352 (private)	21,519,000	8,469
5. 2 Year Public Institutions of Higher Education (1979)	925	3,613,000	unknown
6. 4 Year Public Institutions of Higher Education (1979)	561	6,980,000	unknown
7. 2 Year Private Institutions of Higher Education (1979)	240	166,000	unknown
8. 4 Year Private Institutions of Higher Education (1977)	1,366	2,907,000	unknown
9. Public Nonprofitgang Postsecondary Schools (1977)	1,995	746,995	unknown
10. Private Nonprofitgang Postsecondary Schools (1979)	7,362	997,199	unknown
11. Correspondence Schools (private and public) (1979)	105	614,124	unknown
12. State Correctional Facilities (those that provide vocational training) (1979)	563	330,687	***
13. CETA Prime Sponsors (1980)	476	3,100,000	unknown
14. Job Service Offices (1979)	2,800	17,000,000**	5,113**
15. Educable Mentally Retarded (1979)	Covered in 1, 2, 3 & 4	Covered in 1, 2, 3 & 4	1,600
16. Area Vocational Schools	1,000	975,000	1,500

Note: Total number of enrollments in vocational programs, 18,104,000 (1979 - 2000). Most other figures are from latest available statistics.
* 28,000 full-time equivalent counselors
** 4,242 full-time, 999 part-time
*** Counselors are included among each instructional and assessment specialists. 5,113 (1974)

Table 2

Primary Emphases of Guidance Programs in Diverse Settings

	Age Level	Self-Assessment	Self-Concept	Career Skill Areas	Career Planning	Career Awareness	Career Exploration	Work Experience	Employability	Coping with Work	Economic Realities	Work Options	Planning Options	Job Placement	Follow-through	Job Progression	Special Transitions
1. Elementary Schools	Age 6 to 12	●	●	●	●	●					●	●					
2. Junior and Middle Schools	Age 13 and up	●	●	●	●		●				●	●	●				
3. Secondary Schools	Age 14 and up		●	●	●		●	●	●	●		●	●	●	●		
4. 2 Year Postsecondary Schools	Age 18 and up			●	●			●	●	●		●		●	●	●	
5. 4 Year Institutions of Higher Education	Age 18 and up			●	●			●	●	●		●		●	●	●	
6. Correctional Institutions	Age 14 and up		●	●	●				●	●		●	●	●	●		●
7. CETA	Age 16 and up	●	●	●	●	●	●	●	●	●		●	●	●	●		●
8. Job Service	Age 18 and up	●	●	●	●				●	●		●	●	●	●		●
9. Educable Mentally Retarded	Age 6 and up	●	●			●	●	●	●	●	●	●		●	●		●

In addition to gaining an understanding of who the providers are and where they work, it also is important to appreciate the primary emphases of their programs. Table 2 depicts these emphases in a sample of nine different settings. Because many skills need to be developmentally learned over many years, it is noted that many of the basic skills and attitudes are taught at all or most age levels. This demonstrates the need for a developmental approach to meeting certain client competency needs as they take on different characteristics over time.

In summary, it is important to note that these program emphases have proven to be most important in meeting many of the major problems facing our nation's youth and adults. It has been demonstrated that when individuals develop a healthy self-image, view the future with hope and realism, have the opportunity to test out both educational and work opinions in a secure environment, they are typically more satisfied with life, and become positive contributors in society.

Note: This section taken from Pinson, N., Gysbers, N.C., Drier H. Strengthening Work Related Education and Training in the 1980's Through Improved Guidance Programs In the Reauthorization of Vocational Education Legislation. Washington D.C.: The National Vocational Guidance Association and the American Vocational Association, 1981.

EFFECTS OF QUALITY GUIDANCE PROGRAMS

Given the complexity of individual needs, the variety of settings where guidance programs exist, the seemingly unending set of career development basic skills and normal developmental needs of individuals, and most importantly the various definitions and expectations all of us bring to the question of "Is guidance effective," there is no easy way of presenting all the possible effects of guidance programs.

Using the imperfect and not yet comprehensive research existing database, the best ways of presenting general program effects is by highlighting how certain guidance interventions aided dramatically certain groups of individuals dealing with nationally applied problems and fundamental aspects of career development. These following summaries are but a part of a growing research base that shows positive effects for guidance and counseling across populational types and settings. It is important to also note that these findings are but conservative estimates which have both long-term and short-term client gains.

In addition to the results of studies which will be reported next, findings showing positive effects of guidance and counseling have been reported by evaluators concerned with the effects of government spending in support of guidance and counseling. For example, the 1975 annual report from the U.S. Office of Education, Educational Programs That Work, listed more than a dozen different counseling programs that had been evaluated by outside evaluators as being effective (U.S. Department of

Health, Education, and Welfare, 1975). In Innovative Educational Practice, six effective counseling programs validated by Elementary and Secondary Education Act Title III evaluators were listed (U.S. Department of Health, Education and Welfare, 1974). Similar findings have been reported in documents published by the Office of Career Education, U.S. Department of Education, the Rehabilitation Services Administration, and the Department of Labor.

The following sections will identify representative findings in some of the major categories of research on guidance and counseling related to age groups and special populations.

Long-Term Gains

1. Those exposed to guidance while in school as opposed to those that were not demonstrate after 25 years higher income and overall contributions to society.
2. Individuals who develop realistic career choices while in school follow these plans into adulthood.
3. Students exposed to quality guidance and counseling had better academic records in secondary and postsecondary settings, have implemented realistic career plans, have found more succes at work, attain higher levels of education and are more satisfied with life in general.

Elementary Guidance

1. Empathic acceptance and relationship skills are improved through counselor assistance.

2. Children show gains on self-perceptions and peer acceptance as a result of counselors working with parents.
3. Parent training groups provided by elementary counselors increase student communication skills and parent/child relationships.
4. Children taught behavior-change techniques by the elementary school counselor have been found to make greater academic gains than children in the control group on school attendance, school achievement, and social behavior.
5. Counseled students in the elementary school have been found to make better grades and parents report improved attitudes toward school during a three-year period of time.

Middle/Junior High School Guidance

1. Middle school students exposed to guidance processes designed to improve their interpersonal skills experience improved general behavior and interpersonal relationships.
2. Decision-making processes can be taught to junior high and senior high school students within a guidance and counseling setting by using a variety of modeling techniques, sequential learning exercises, and activity packages.
3. Counseled students in the middle school have been found subsequently to make more realistic choices in choosing

high school courses and seeking part-time work according to adult jury ratings.

4. Junior high school students provided guidance programs specifically designed to do so gain in knowledge and desire to explore nontraditional jobs as compared with control groups.

Senior High School Guidance

1. Students exposed to systematically planned career-guidance classes dealing with topics such as values clarification, decision making, job satisfaction sources of occupational information, work-power projections, and career planning make greater gains on self knowledge and the relations of self-knowledge to occupations and engage in a greater number of career-planning activities than students who have not participated in such classes.
2. Through group problem-solving methods, students are helped to better understand the relationship between educational and vocational development, clarify personal goals, and acquire skill in identifying and using relevant information for their decision-making needs.
3. Students exposed to model reinforcement and reinforcement counseling independently seek out their own information than students not so exposed.
4. Female students exposed to guidance programs emphasizing career awareness gain significant improvement in overall

career awareness and in factual knowledge of the occupational status of women.

5. Short-term counseling has been found to facilitate the career maturity of high school students with regard to emphases such as orientation to decision making, planning, and independence of choice.
6. Guidance and counseling processes help the young worker to sort out available work choices, consider personal commitments to work, and develop ways of deriving feelings of psychological competence in the workplace.
7. Young workers who have been trained in job-search and interview skills and communication and human relations at work are more likely to make an effective transition to work than workers who have not.
8. Behavior rehearsal in which young workers can act out or role play with a counselor specific work-related social and interpersonal problems is more effective in resolving such problems than direct advice.
9. For young persons--disadvantaged and others--preoccupied with economic issues, guidance and counseling focused on job placement is more effective than broader matters of work adjustment until after the persons secure a job and begin to work.

Postsecondary Guidance

1. Men and women students with identifiable educational goals seem consistently to be better prepared for

college than students who have no such reasons for being in college.

2. The importance of desiring what one has chosen rather than being at the whim of others without any personal investment in the choice is a factor in academic succes in college, and such behavior is aided by guidance processes.

Minority, Disadvantaged and Other Special Youth Guidance Efforts

1. Adolescent Black males who have been assisted through guidance and counseling to decide upon vocational objectives have been found to have more positive self-concepts than those who have not been so assisted.
2. Studies of adolescents and young adults in rural areas showed that self-awareness activities, job-seeking skills activities, and peer interactions through group sessions, counseling, career materials displays, testing and information meetings caused observable positive changes in most of the participants.
3. Minority students who are assisted in deciding on vocational objectives are typically found to have more positive self-concepts and higher ideals and goals than those who do not have such objectives.
4. Group counseling that focuses on problems of an inter-racial nature and the promotion of understanding and openness between students from different cultural

backgrounds create a relaxed atmosphere in a school and increase intergroup understanding.

5. As a function of studying 9,000 persons in 879 schools, it was found that counseling and counseling-support programs clearly correlated with positive racial-climate changes in newly desegregated schools. This finding was especially apparent in the number of interracial friendships formed, how well students of different races worked together, how well teachers worked together, integration of students on the campus and in the cafeteria, and the attendance of Black students.
6. Short-term professional counseling coupled with probation can have more immediate and lasting effects than probation alone.
7. The provision of adult basic education, general educational development, and vocational courses to institutionalized juvenile delinquents is likely to be more effective if career counseling is also offered than if it is not.
8. Lower rates of recidivism, truancy, running away, and ungovernability were found in delinquent children who had taken part in a Baltimore project providing counseling and support services including youth advocates to predelinquent and potentially delinquent children.
9. Counseling and support services, including peer counseling, can reduce the rate of recidivism for

truancy, running away, and ungovernability among predelinquent children.

10. Specific programs designed to prevent, control, and eliminate dropouts or delinquent behavior are effective when they include combinations of educational assistance, vocational training and placement, and recreational activities and counseling.
11. Modeling and reinforcement counseling with educable retarded youngsters is effective in facilitating knowledge of how to get a job and in stimulating job-seeking behavior.
12. Guidance and counseling for disadvantaged youth is effective when linked to a direct service such as job placement.
13. The combination of counseling with the use of indigenous role models who have succeeded in educational and occupational options is effective with innercity youth.

In summary to the discussion on effects, much evidence could be added in the areas of employer benefits, broad social benefits, and cost savings all in relationship to individuals being exposed to quality career guidance and counseling. It is obvious that as guidance decreases self-abuse, work loss, mental illness, absenteeism, unemployment, crime, etc., private and public benefits are numerous. As individuals find satisfying work, have improved self-esteem and are able to earn acceptable

wages billions of dollars are saved through reduced welfare payments, incarceration costs, mental treatment and overall social behavior is much more desirable and less costly to local and state governments.

In summary, reductions in recidivism rates in correctional institutions or in length of stay in psychiatric hospitals, or in sustained unemployment each carry an economic factor which can be credited to the effectiveness of guidance and counseling. So, too, do increases in worker productivity and job satisfaction, holding power of schools and institutions of higher education, decreases in welfare and unemployment compensation, increases in family solidarity and concurrent decreases in divorce costs, foster home care for children and related matters. These effects, which have been shown to result from guidance and counseling in either single studies or multiple studies, converge to significantly affect the growth in the Gross National Product of this nation however difficult such connections are to make.

These limited situations have been drawn from three major references which contain very comprehensive and persuasive evidence on the effects of guidance which are mentioned later in this testimony.

CONSEQUENCES OF REDUCTIONS OR ELIMINATIONS OF APPROPRIATIONS FOR VOCATIONAL EDUCATION INCLUDING PROGRAMS OF GUIDANCE AND COUNSELING

The new federalism plan and the fiscal year 1983 budget presented to Congress by the administration call for changes that would within a relatively short period of time eliminate all federal involvement in vocational education. In essence, the plan reduced the federal investment in 1979-80 of $734,860 million to $49.4 million in 1982, and would in 1983 with the consolidation with adult education reduce it further to around 415 million dollars. This total reduction of 44% in federal support in vocational education is and will have drastic effects on the employability and productivity of future workers and parallel effects on the nation's economy. These cuts and the additional plans to turn over vocational education and guidance program support to the states to a point where federal funding has been phased out is frightening. A sample of the potential impact on the quality and delivery of career guidance and counseling programs and service are as follows:

Guidance Program Improvement

Research, Development and Training

The federal set-aside for programs of national significance when funded at a 5% level yielding $28,203 million in 1978 as an example permitted landmark advances in the field of guidance and counseling. Through the National Vocational Education Leadership

Development Program, leading scholars in the field of Guidance were allowed the time and support to investigate new methods of improving theory, assessment measures, effective counseling methodology and in general move the practice of guidance in line with our changing society.

Having available at low cost, current, reliable and client-usable career and labor market information is the cornerstone of the counseling and guidance process. Youth and adults current and future decision making and vocational plans are only as realistic as the information they use in the process. During the past decade especially through the federal establishment and fiscal support of the National Occupational Information Coordinating Committee (NOICC), we now have available, and confidence in, national and state data. Never before have youth and adults, counselors, leaders, and planners had career and labor market information on computers, microfiche, print media and other forms available for their use. NOICC, with it's state network of state committees and operating state career information delivery systems (SOICC) assures that (a) career choices are more realistic, (b) vocational offerings meet manpower needs, (c) data or occupational demand and supply are based on uniform definitions, and (d) all state program planning is conducted jointly by local, state, and national leaders in labor, CETA, employers, and vocational education. To reduce, eliminate or leave to the discretion of national policy makers, the support for the vital program would jeopardize the potential

for maintaining and improving the preparation of youth and adults for their future education, training, and work roles.

Since the enactment of the Vocational Education Act of 1963 The Office of Vocational and Adult Education, in the Department of Education has provided a most important national leadership role in guidance and counseling. This federal presence through funding national program improvement contracts and grants has allowed our country to assume a world-wide leadership role in guidance research and development. It has supported an ongoing research and demonstration of local guidance programs and systems especially in rural and urban areas. It has developed a one of a kind national competency based career guidance personnel training program and a rich set of proven techniques to build greater collaboration between guidance and the employing community. Through its five-year funding of a National Center for Research in Vocational Education, long term investigations, development and training opportunities for guidance programs and guidance personnel have been afforded. Applied research and development in the areas of career decision making, application of career theories for adults, operation guidance delivery systems and competency-based training approaches at the Center have had lasting impact in the field. The establishment of clearinghouse operations, data collection procedures, evaluation methods, techniques for equity based counseling etc., have also made measurable improvements in the delivery of guidance and

counseling. In addition, through the National Center's academic and in-residence program, hundreds of future guidance leaders have had their skills renewed and enriched.

Without this continued federal investment in resolving national problems, development of new and improved guidance methods and systems, and the revitalization of a future leadership cadre the field of guidance and counseling will lose its ability to be responsive to its mission in vocational education.

Lastly, a federal role is critical in order to assure that its investments in research and development are being considered and used. One primary reason for not realizing full adoption of methods and products that have been proven effective is that state and local educational agencies have not had the resources to bring about change. If the nation's guidance personnel are to be made aware of new improvements, acquire new products and methods, and gain skills to improve and evaluate their programs, it is imperative that the federal government invest in ongoing dissemination and diffusion programs.

It is only reasonable to expect that if this nation expects to bring about new work behaviors, increased employee skill levels, and improved productivity, there is a federal responsibility and role to be played. If research, development and training is to be conducted at the state and local levels, there will be massive duplication, reduced quality of investments, and as important, no plan that problems or issues of national impact will ever be addressed.

State Guidance Program Improvement

The funds that have been set aside and allocated for state guidance program improvement, especially, P.L. 94-482, Section 134 of Title II, have been the most important federal investment in the field of guidance. During the past seven years these millions of dollars have been utilized to support state and local career guidance programs, needed staff, and ongoing update. There has been more innovation, greater use of technology in the delivery of guidance, establishment of cooperative networks and resource center and in general a very visible expansion and improvement in many aspects of career guidance.

In order to illuminate more fully on this impact the guidance division of AVA polled several states to collect some summary impact data regarding this federal investment in both vocational education and career education. The following Table 3, depicts but a small portion of vocational education guidance support impact from a sample of states:

TABLE 3

Sample of Current Activities
and Resource Reduction Impact - 1981

State	Example of Activities and Clients
Illinois	o 7,700 requests for guidance services from local schools and community agencies o 1,600 site technical assistance visits to local schools for program improvement o 81,000 copies of newsletters to local counselors to assist in researching and identifying technical assitance and information

TABLE 3 (continued)

- o 17,000 contacts with YMCA's, YWCA's, migrant councils, youth councils etc. to improve guidance program coordination
- o 650 workshops conducted for over 15,000 guidance personnel

Potential Impact if Funds are Reduced or Eliminated

As a result of 1981 cuts there has been a 40% reduction in career guidance centers. Because of the $250,000 cut, seven centers were closed, eliminating 185 workshops planned for 795 conselors and teachers. Also, the Illinois Career Computerized Information Program which served over 12,000 students was curtailed. Fifty percent of all school visits had to be cancelled (800). Technical assistance by phone and mail will not be available to 3,500 counselors and teachers, and 20,000 less newsletters will be dropped.

State	Examples of Activities and Clients
Florida	o Computerized Information System now serves 280,000 high school students annually o Micro Career Information System now serves over 15,000 adults in vocational educationprograms o Non-Aultimated Career Information System serves over 190,000 students in community colleges o Vocational Rehabilitation Career Career Newsletter reaches over 3,000 staff

- State-wide Toll Free Career Information Hotline serves over 25,000 guidance staff and clients
- 1,400 graduate students are provided pre- and in-service training in guidance
- Career Guidance Training Laboratories have served over 1,400 students at the university level
- Over 50 new guidance products have been developed in 1981.
- At the university levels in 1980-82 over 12,800 individuals received assistance from guidance offices

(Note: 20 state staff are supported by vocational education Section 134 monies)

Potential Impact if Funds are Reduced or Eliminated

As a result of the 1981 cuts (20%) the state had to reduce its information collection, dissemination efforts, and all new planned research and development program improvement efforts. The proposed new cuts would cause the elimination of over 50% of the computerized job bank, information in computerized systems would not be updated, and ten staff at the state level (50%) would be cut. Much of the progress made over the past twelve years would be severely damaged. At the university level, career guidance pre-service and in-service training is dependent heavily on federal support. A 40% decrease in enrollments and discontinuance of all new training research and program development would occur at a minimum.

State	Examples of Activities and Clients
Maryland	o Twenty-four local high school career source centers established (95,000 students over four years) o Placement centers and services reach 82,000 high school students, and 68,000 community college, job development, and incarcerated clientele o A variety of career information systems, pre-service and in-service programs, and staff/student products provided through federal funding

Potential Impact of Funds are Reduced or Cut

Funding cutbacks will affect most major program improvement efforts that have been operationalized over the past five years. The state developed an eight-year plan for the development and improvement of the above mentioned efforts and funding cutbacks would destroy this long term investment. Specifically, over 60,000 clients have been or will be affected as a result of past or projected 1983 reductions in funds.

State	Career Education Incentive Act Impact
Nebraska	o Five colleges funded for pre-service and in-service training (400 teachers and counselors) o Career information systems for state supported impact (state-wide system) o 286 schools and 24,000 students effected by career infused teaching and learning

Potential Impact if Funds are Reduced or Eliminated

With little or no state monies now targeted for the above activities, much or all of the ongoing staff training, material development and keeping current and available the state-wide career information system would be in jeopardy. All the state program improvement efforts supported by the federal investments were based upon continual expansion and improvements. The lack of federal presence in these activities would outdate them within a short period of time.

Impact of Block Grant and Eventual Phase-out of Federal Involvement in Guidance Program Improvement

As a result of polling a sample of state guidance supervisors within state departments of education, there left little doubt about the immediate impact to guidance programs, if all future vocational education monies were placed in a block grant to the states to compete with 30 to 40 other programs important to school clientele. All states strongly stated that any attempt to provide technical assistance, program quality assurance, staff and program certification and credentials, upgrading and retraining of guidance personnel, collection of program impact evaluation data and needed research and demonstration would be curtailed. Any remaining state guidance staff, if any, would merely serve a regulatory and supervisory capacity. Specifically, state supervisors suggest that their roles in assisting the vocational education and employer community that cause the

changes needed to revitalize our national economic stability and worker productivity would be completely dissipated. A few examples are as follows:

1. Current efforts to assist persons with disabilities to prepare for productive work would be reduced.
2. Attempts to assure better equity in preparation of materials, staff training and client decision making would suffer.
3. Current improvements in assisting all students to seriously consider vocational training would be cutback resulting in fewer enrollments or inappropriate course choices being made.
4. Counseling of displaced workers and the unemployed will be reduced.
5. Counseling youth regarding military training and career options will be reduced.
6. Special services for the disadvantaged will not have priority.
7. Building or strengthening needed collaboration between school guidance services and the employing community will suffer.
8. Counseling youth and adults concerning new and emerging occupations will be cut back.
9. Fewer special needs students will receive needed counseling.

10. Citizens in economically depressed communities will be without any quality guidance and counseling.
11. Workers, especially the entry level, attitude and value improvement needed to revitalize the workplace will suffer.
12. Many advancements in dropout prevention, integration, drug abuse, morals improvement, self-abuse, etc., will revert to the status of old.

While there are many other examples that could be cited, one's memory of the past would suggest a rapid decay of the nation's guidance and counseling efforts without federal leadership. Since 1958, as an example, every time funds became limited or discretion was left to local districts and there were no expressed priorities or mandates to provide quality guidance and counseling, guidance leadership and services, such guidance staff and programs were the first to be cut.

The basis, rationale and need for a federal investment in vocational education and guidance remains the same as it was in 1916 when congress established the concept through the passage of the Smith-Hughes Act. Today, as then, the nation's goal is to strengthen our ability to prepare a skilled workforce and to help solve certain national economic and social problems through federal, state and local partnerships.

FEDERAL ROLE AND LEGISLATIVE RECOMMENDATIONS

I have identified and discussed briefly the substance, resources, and effects of guidance, implications for future fiscal cuts and implied needs of our nation's young and old alike. The questions that face us now is (1) what should be the future federal role through vocational education legislation, and (2) what new guidance language and intent recommendations would aid in implementing these roles.

Federal Roles

Role One

To assure that all tested effective products and methods, resulting from state and federal investments, be known and available to potential users, incentives and supports are needed to ensure that the best of our research and development reach their intended audiences.

Role Two

To assure that constant improvements are made in all major aspects of guidance delivery, theory development, client assessment tools, information systems, placement programs and longitudinal studies, etc., all need to be priorities of the federal government. No other agency in the past and we doubt in the future will assume this role.

Role Three

Assisting state and local guidance personnel to improve and sustain the capacity of guidance and counseling programs to keep up-to-date and in tune with individual and national needs and priorities is of utmost importance. To improve and sustain the capacity of guidance and counseling programs will require attention to such things as research, program and product development, staff development, leadership training and guidance effects studies. It also will require that encouragement be given as well as the way be opened for interchanges among counselors and other guidance personnel, business and industry personnel, government agencies, including the Department of Education and the Department of Labor, as well as their counterparts at the state level, plus, I am sure, many other relevant groups and organizations.

Role Four

To continue a national occupational analysis system which will allow counselors, vocational planners, and employers to keep current on career and labor market information. We all know that there is a shortage of skilled workers in this country. How does information like this get into the hands of guidance and counseling personnel so they, in turn, can help individuals make informed choices without a national level system for collection, analysis and dissemination. There are a number of good mechanisms already in place to do this, but they need to be expanded and improved.

RECOMMENDATIONS FOR LEGISLATION TO RESPOND TO THESE NEEDS AND ROLES?

As the form and language for vocational education legislation are being developed, there are a number of recommendations concerning guidance and counseling programs that need careful consideration. These recommendations are based on the historic and continuing premise that guidance and counseling programs are integral to the strengthening and improvement of vocational education and the employability, job adjustment, and job satisfaction of the nation's work force.

Recommendation One

If guidance and counseling programs are to meet such individual and societal needs as have been identified, then it must be mandatory that the definition of vocational education in the proposed legislation include guidance as an integral and central program. As a program, guidance has characteristics similar to other programs in vocational education, including:

a. learner outcomes (competencies)

b. activities and processes to assist learners to achieve the appropriate outcomes

c. professionally recognized and certified personnel

d. materials and resources

Recommendation Two

A major purpose of federal funds within the Basic State Vocational Grants need to include provisions for the improvement

and expansion of current guidance programs. This includes, but is not limited to:

a. expanding access for all individuals to vocational education through improved guidance programs

b. improving guidance programs for students already enrolled in vocational education

c. improving guidance programs to assist vocational education students who make the transition from instruction to work.

Recommendation Three

Additional purposes for federal funds for guidance need to include programs for individuals and community groups in depressed areas, special needs populations, groups seeking equity, and adult employment training. Such programs include, but should not be limited to:

a. career awareness and orientation

b. career decision making

c. career and labor market information

d. placement, follow-up, and follow-through assistance

e. career assessment

f. counseling

g. guidance-based curriculum emphasizing such skills as job-seeking and job-keeping skills, job adjustment, and job-changing skills to adapt to changing individual needs and the changing needs of the labor market.

Recommendation Four

Since guidance is an integral part of vocational education, guidance needs to be included in future federal programs of national significance, especially as a priority within the

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National Center for Research in Vocational Education's set of long-term research, development and training activities. I recommend that such areas as the following be included:

a. guidance research and development dealing with new techniques, theories, methods, and procedures for program improvement

b. counselor education pre-service and in-service training opportunities and curriculum development

c. guidance leadership development for both state and local settings

d. guidance program effects studies

Recommendation Five

To ensure that guidance programs are an integral and central part of vocational education, there is a need for states to plan annually on how guidance program improvement priorities are being implemented and evaluated. This means that guidance personnel need to be directly involved in the development, implementation, and evaluation of all state plans and delivery approaches.

At the local level, it is recommended also that schools plan to show how they will meet local and state needs. Perhaps, needs assessment should be required to find out where the gaps are in guidance programming and then, as a part of the plan, outline the steps to be taken to fill these gaps.

Recommendation Six

Legislation must allow at the state level, guidance leadership staff and budget sufficient in quality and quantity to

sustain the leadership, planning, program development, technical assistance, and internal and external relationships essential to effective improvement, extension, and expansion of guidance and counseling programs.

Recommendation Seven

An additional purpose for federal funds to strengthen guidance programs should be to continue to improve the development and delivery of labor market career information. NOICC and SOICCs are already in place as are a number of career information delivery systems. A great deal of labor market information is for planners of educational programs and this, of course, is important. There is another purpose, and that is for use by young people and adults so they can become aware of occupational opportuntities and then make informed choices educationally and occupationally. This later use has been recognized by leaders in the field for a long time and it is now becoming a reality through exemplary federally funded projects. Project evaluations clearly indicate that the counselors involved in gaining new knowledge and skills in the use of career and labor market information are more effective in their guidance services. It also indicates that counselors were enthusiastic about the opportunity for this type of training because of the crucial nature of the information and of the needs of their clientele.

Recommendation Eight

Important to the implementation of all the above recommendations regarding the need for federal leaders and presence in the field of guidance is the availability of quality staff, organizational visibility and priority, and sufficient financial resources. It is recommended that a unit or division for career development and guidance be established within the Office of Vocational and Adult Education, U.S. Department of Education. Operating with sufficient support this leadership unit would serve to network and collaborate with other educational agencies, the Departments of Labor and the military, private sector representatives, professional associations and most importantly will serve as a leadership base for state level leaders. Without sufficient demonstrated commitment and priority to guidance within vocational education at the federal level, little can be expected at state and local levels.

SUMMARY

In this statement we have shown why career guidance and counseling must be a central part of vocational education if we are to revitalize our economy, improve worker satisfaction and productivity and build our military strength. We stress this point for at least two reasons. First, we know through experience and research that those who receive early and continuous quality guidance exposure are better prepared to choose career and work options, have greater academic and vocational achievement, have more mature attitudes towards self, others and work, are more productive, have reduced dependencies on government support, find greater satisfaction in life resulting in less cost to all levels of government and in essence, are overall more productive citizens. Second, we realize as the congress does, that authorization for the federal support of guidance programs occurs in a number of pieces of education, employment, training, and mental health legislation. For this reason we cannot leave to chance that state and local governments will support, at an appropriate level, funds for guidance out of future vocational education legislation. Guidance must be preliminary to vocational training, interwoven in the total training curriculum, and present as students prepare for and enter the labor force.

What is needed is a common perspective and language built into all phases of future vocational legislation so that guidance

is not viewed as an ancillary service apart from instruction, so that guidance can serve as a integrating vehicle for students to see the purpose of careful choice, informed career planning, skill acquisition, and productivity at work and community participation.

Thank you for this opportunity to present our views. I would be most pleased to provide additional clarification on points that I have made or issues I have not dealt with.

Special References

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Herr, E. Testimony Prepared for the Oversight Hearings on Guidance and Counseling, conducted by the U.S. Senate Subcommittee on Education, Arts and Humanities, April 28, 1982.

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Chairman PERKINS. Thank you very much. That is a good statement.

Our next witness is Dr. Gary Meers. Go right ahead.

STATEMENT OF GARY MEERS, SPECIAL NEEDS TEACHER EDUCATION, UNIVERSITY OF NEBRASKA (NEW AND RELATED SERVICES)

Mr. MEERS. Thank you, Mr. Chairman. My name is Gary Meers and I am vice president of the American Vocational Association representing the new and related services division, and in addition, I serve as a special vocational needs teacher-educator at the University of Missouri.

What I would like to talk to you today about are the concerns we have within our division, and we perceive our division as being a generic area of programmatic improvement. Specifically, I will be talking about research, teacher training, curriculum development, adult education and cooperative work experience.

I would like in the testimony to make the case for vocational education in that it is an essential part of this country's revitalization of its economy, and the development of its human resources. The base from which I would like to make my case is that unemployment is at its all-time high since World War II. While there is a great need for skilled workers, we are seeing a high unemployment rate. Vocational education has the expertise to resolve this problem, but we contrast what we have in terms of expertise with the financial backing we have to deliver the services.

Vocational education has had a long-term involvement, the Federal Government has had a long-term involvement in vocational education—in fact, since 1917, with the Smith-Hughes Act. This participation since 1917 has provided the United States with continuous local and State training programs for giving a national perspective of emerging training needs, a form through which we can develop our emerging national manpower needs. This Federal, State, and local involvement has allowed for localized control of programs while giving birth to a national network of sharing and communication between and among programs.

Many States would not have been able to offer vocational training if it had not been for the Federal dollars that were invested, though in recent years, Federal appropriations have declined in actual purchasing power while Federal mandates have increased. This financial dilemma has created extreme hardships for State and local districts to maintain an ongoing plan of program improvement. Essential to the future of vocational education is the continuation and expansion of program improvement services.

In talking with State directors of vocational education, I am told repeatedly that program improvement activities will be severely cut or eliminated, if the funds are not there to carry on. They will, in fact, provide funding for the basic grants at the sacrifice of program improvement activities.

I will now outline some of the specific needs found within the area of program improvement. Under the heading of research, at a time when many training questions are facing the Nation, vocational research dollars are being reduced or reallocated to such a

degree that opportunities for applied research are being greatly diminished.

These research dollars are to do direct applied research as opposed to a lot of theoretical work. Before training programs can be modified and improved, there must be a base from which decisions can be made. Through a sound research effort, this much-needed data can be generated and knowledgeable program decisions can be made.

These research efforts need to be conducted on State and regional bases in order to meet specific localized needs as opposed to a generic research base being developed where direct application often is difficult.

Research in vocational education is not a luxury, but an integral, essential part of program improvement. Quality research serves to save needless use of funds while maximizing the dollars that are available. This statement can be verified by reviewing the kinds of practical, applicable research that has been conducted over the past years.

Under the heading of teacher training, or personnel development, I would like to make the following statement. Vocational education can be no stronger than the personnel within it. Currently, the stability of vocational education is being shaken to its very foundation due to the number of position cutbacks being implemented. For example, in nine States there have been 2,168 teaching positions eliminated. This is just an example.

If you try to recruit someone from business and industry to come and work in a vocational training program, and that person is aware of the fact that the position is very tenuous at best, or could well be eliminated, you are not going to be able to recruit that individual to come in from industry, or from business to work in a vocational setting.

In addition, in 14 States there have been 2,616 programs that have been eliminated, and 367,564 students turned away. This is not the way to bring about program improvement, nor continue our recruiting of people from business and industry to vocational education.

Another critical need in personnel development is the upgrading of instructors. These individuals need instruction in the current teaching methods, media usage and other instructional updating. In addition, we need to increase the scientific and technological literacy of instructors.

What we find is that relevancy is not just a word that is used but is a theme that must be utilized. Vocational teachers are also in need of education on how to serve special needs population, bilingual, disadvantaged, and handicapped students require specialized services within regular vocational settings. These population groups have made many advances since 1968, and America cannot afford to eliminate teacher education programs that train vocational teachers to work with these groups. To do so would be to deny these citizens of their rights and progress.

Under the heading of curriculum development, previous vocational legislation has established curriculum development laboratories throughout the United States. At present, many of these have been eliminated or greatly reduced in terms of service.

The word relevancy again surfaces in terms of current applicable curriculum being available to vocational instructors. To ask individual instructors to develop their own curriculum for commonly taught courses is to ask for reinvention of the wheel over and over again. Curriculum development laboratories develop and field the curriculum and then make it available to instructors. Instructors can then make modifications that are needed based upon their local needs. This process is both efficient and financially responsible.

It also lends itself to national continuity, which is needed in our transient society. The State and regional curriculum laboratories share with each other so that there is commonality with local input.

An example I would like to cite is with a common curriculum for welders. The basics are the same for welders throughout, and a curriculum development laboratory would develop the course of study for this area. Then, based upon local needs, the students would finish their training using teacher development material such as in the area of shipyard welding. Duplication is avoided and local input is realized.

We currently have two major consortiums operating, the Middle America Vocational Curriculum Consortium composed of 11 States, and they develop five major curriculum systems each year. The system is also composed of an 11-State consortium. Over its 8-year history it has produced over 100 catalogs of task and performance objectives. This year alone there are 40 in production, and yet these activities have been carried out with very limited funds.

Under adult education, we have three problems facing us: a decline in productivity, displaced workers, and a shortage of skilled workers, and, again, Federal funds have been reduced. In the State of Ohio there has been a 22-percent reduction in the funds available for adult education programs, and as a result 180 teachers were not rehired and 5,000 full time adult students were unable to enroll.

The reduction in programs were and are the greatest in rural and less populated areas. These areas are less able to increase local revenue to allow continuation of adult vocational programs in their areas.

Another point I would like to make very clearly is that adult vocational programs should not be confused with adult basic education programs. They are complimentary, but are not synonymous. Each has a unique mission and requires its own funding in order to achieve its mission.

Under cooperative work experience, we find that a common theme in Washington in the last couple of years has been private sector involvement. Cooperative work experience programs can greatly facilitate the furtherance of this theme to the benefit of both the students and the employer. Both are learning in each other while benefiting from each other. Every provision must be made within the new legislation to encourage and support cooperative work experience programs.

I would like to talk now about vocational education's role in the future. Vocational education has had a good track record in the training of skilled workers in spite of inadequate funding, and to

further reduce the available funding will greatly diminish the effectiveness of vocational education as we know it today. The National Institute of Education's final report entitled "The Vocational Education Study, the Final Report," revealed that vocational education has long been charged with too many purposes without adequate funding to accomplish these assigned purposes.

S. 2325 entitled "Vocational and Adult Education Consolidation Act of 1982" states that $500 million will be made available to States to modernize their "vocational and adult education delivery systems to better meet the national need to provide trained individuals for employment related to national economic growth and developments," again, at a level of $500 million.

Specifically, it wants to do five things. The bill would, first, meet the needs of youth and adults in all communities for vocational education; second, strengthen the ability of States and local systems of vocational education to promote and respond to economic development; third, provide equal educational opportunity in vocational education—and I underscore all students; fourth, meet the needs of employers for a skilled and literate workforce; and fifth, enable adults to continue their education to at least the level of completion of high school.

In considering the proposed funding and the listed purposes, one can readily see a very large discrepancy between funding level and assigned responsibility. In addition, the $500 million that I just mentioned is not totally available. The money is to be apportioned as follows. From the total of $500 million available nationwide, $50 million is reserved for the Secretary of Education for discretionary projects. Of the remaining $450 million, 13 percent, or $58,348,500, is reserved for adult basic education.

The remaining amount, for what has been considered vocational education, is $391,500,000. This is to be divided among all 50 States. It appears that this bill is intended to perpetuate the previously identified problem of too many purposes for the funding proposed.

Another problem that surfaces with the proposed legislation is making vocational education a part of a block grant. It will exclude, we feel, many special groups that are in need of and entitled to services. The basis for excluding vocational education also from a block grant is that of identity.

By setting vocational education apart, as a separate act, Congress will be reinforcing the fact that, based upon vocational education's past record, current mission must have a separate identity in order to be a part of this Nation's recovery from its current economic situation.

In conclusion, I would like to say that we have tried to show that the Federal Government has had a long history of funding and participating in vocational education. This participation must continue on, if the United States is to meet its needs for skilled workers on a nationwide basis. The proposed funding level of $391,500,000 is simply not adequate to carry out the mission of the legislation currently being studied.

A more realistic amount would be $1.5 billion. This figure would allow for the purposes of vocational education to be accomplished in a manner that is reflective of a nation that is truly concerned with training skilled workers to participate in the workplace. This

amount also would not be a great increase but only a figure that would allow vocational education to stay current with inflation.

Another matter of concern is the 2-year duration of the proposed legislation. One can only assume that a 2-year limit, as such, means that at the end of this time span, there will no longer be any Federal involvement in vocational education.

The United States must continue to support vocational education, and within vocational education those components that contribute to program improvement. Without research, training and curriculum development, adult education, cooperative work experience, the program improvement enterprise will falter, and vocational education will cease to be the major educational system for training all population groups that take place in employment.

Thank you.

[The prepared statement of Gary Meers follows:]

PREPARED STATEMENT OF DR. GARY MEERS, VICE-PRESIDENT, AMERICAN VOCATIONAL ASSOCIATION

Mr. Chairman and Members of the Committee, my name is Gary Meers and I am Vice-President of the American Vocational Association representing the Division of New and Related Services. This division deals with the generic area of program improvement in relation to research, teacher training, curriculum development, adult vocational education, and cooperative work experience. I appreciate having this opportunity to speak on behalf of vocational education and the individuals it serves.

I would like, in this testimony, to make the case that vocational education is an essential part of this country's revitalization of its economy and the development of its human resources. The base from which I would like to make my case is that unemployment is at its highest point in 40 years while there is great need for skilled workers. Vocational education has the expertise to resolve this problem of contrast through the utilization of its personnel and programs. The problem that exists and to which I will speak is the lack of financial resources to carry the training to those who need it most.

The federal government has had a long term involvement in vocational education and it is imperative that this involvement continue. With the passage of the Smith-Hughes Act of 1917 the federal government started its financial and program participation. This participation provided the United States with continuous local and state training programs while giving a national perspective of emerging training needs and how best to meet these needs. This federal, state, and local involvement has allowed for localized control of programs while giving birth to a national network of sharing and communication between and among programs.

Many states would not have been able to offer vocational training if it had not been for the federal dollars that were invested, though in recent years federal appropriations have declined in actual purchasing power while federal mandates have increased. This financial dilemma has created extreme hardships for states and local districts to maintain an ongoing plan of program improvement.

Essential to the future of vocational education is the continuation and expansion of program improvement services. In talking with state directors of vocational education I am told repeatedly that program improvement activities will be severely cut or in many cases eliminated entirely. For the field of vocational education, the elimination of the funds necessary to carry out these activities will mean that programs and training will become increasingly out of date in recent years to the actual needs of the field. I will now highlight some of the specific needs found within the area of program improvement.

RESEARCH

At a time when many training questions are facing the nation, vocational research dollars are being reduced or reallocated to such a degree that the opportunities for applied research are being greatly diminished. Before training programs can be modified and improved there must be a base from which decisions can be made. Through a sound research effort this needed data can be generated and knowledgeable program decisions can be made. These research efforts need to be conducted on a state and regional basis in order to meet specific localized needs as opposed to ge-

neric research data being generated where direct application is often difficult to make.

Research in vocational education is not an add on luxury but is an integral, essential part of program improvement. Quality research serves to save needless use of funds while maximizing the dollars that are available. This statement can be verified by reviewing the kinds of practical, applicable research that has been conducted over the past years.

TEACHER TRAINING

Vocational education can be no stronger than the personnel that works within it. Currently the stability of vocational is being shaken to its very foundation due to the number of position cutbacks being implemented. The following states are eliminating 3,168 teaching positions due to funding cuts.

Illinois	−526
Missouri	−269
New York	−770
Oregon	−203
Massachusetts	−176
Utah	−140
Nebraska	−294
Ohio	−641
Pennsylvania	−149

These states serve only as examples of the nationwide position cuts that are being carried out and yet the mission of vocational education remains that of training skilled workers. How can this mission be accomplished where there are too few instructors?

The problem of recruiting teachers from business and industry is growing at a rapid rate. Teachers, like all employees, want some sense of security when they assume a position. With the unstable funding of the past two years, training programs nationwide have had to close their doors. In fourteen states this means that 2,616 programs will have been eliminated and 367,564 students turned away. This is not the way to bring about program improvement nor to recruit business and industrial trained teachers.

Another critical need is the upgrading of instructors currently in the field. These individuals need instruction in the current teaching methods, media useage, and other instructional updating. In addition, increasing the scientific and technological literacy of instructors is a must. Emerging programs such as robotics, laser technology, fiber optics, and computer-assisted manufacturing all require instructor updating. To ignore this component of instructor training will only serve to increase the gap between vocational education and the work world. "Relevancy" is not just a word that is used but is a theme that must be utilized.

Vocational teachers are also in need of education on how to serve special needs populations. Bilingual, disadvantaged, and handicapped students require specialized services within the regular vacational settings. These population groups have made many advancements since 1968 and America cannot afford to eliminate teacher education programs that train vocational teachers to work with these groups; to do so would be to deny these citizens their rights and progress.

CURRICULUM DEVELOPMENT

Previous vocational legislation has established curriculum development laboratories throughout the United States. At present many of these have been eliminated or greatly reduced in terms of services. The word "relevancy" again surfaces in terms of current applicable curriculum being available to vocational instructors. To ask individual instructors to develop their own curriculum for commonly taught courses is to ask for a re-invention of the wheel over and over again. Curriculum development laboratories develop and field test curriculum and then make it available to instructors. Instructors can then make modifications that are needed based upon their local needs. This process is both efficient and financially responsible. It also lends itself to national continuity which is needed in our transient society.

These state and regional curriculum development laboratories share with each other so that there is commonality with local input. An example of this are some of the courses of study that have been developed for the training of welders. The basics are the same and a curriculum development laboratory would develop the course of study for this area and then, based upon the local employment needs, the students would finish their training using teacher developed material such as shipyard weld-

ing or oil rig welding. Duplication is avoided, and local input is realized. Provision for these laboratories must be made in the new legislation if the training materials are going to remain up to date.

ADULT VOCATIONAL EDUCATION

At a time when the United States is faced with a decline in productivity, displaced workers, and a shortage of skilled workers, federal funds have been reduced. The reductions have forced many training programs to close so that the skilled worker problem is only accented as opposed to being resolved.

The state of Ohio has had a 22 percent reduction in funds available for adult vocational programs. As a result of this reduction 180 teachers were not rehired and 5,000 full-time adult students were unable to enroll. The reduction in programs were and are the greatest in the rural and less populated areas. These areas are less able to increase local revenue to allow continuation of adult vocational programs in their areas.

Adult vocational programs should not be confused with adult basic education programs. They are complementary but not synonymous. Each has a unique mission and each requires its own funding in order to achieve its mission.

COOPERATIVE WORK EXPERIENCE

A common theme in Washington the last couple of years has been "private sector involvement." Cooperative work experience programs can greatly facilitate the furtherance of this theme to the benefit of both the student and the employer. Both are learning from each other while benefiting from each other. Every provision must be made within the new legislation to encourage and support cooperative work experience programs.

VOCATIONAL EDUCATION'S ROLE IN THE FUTURE

Vocational education has had a good track record in the training of skilled workers in spite of inadequate funding and to further reduce the available funding will greatly diminish the effectiveness of vocational education as it is known. The National Institute of Education's final report entitled, "The Vocational Education Study: The Final Report," revealed that vocational education has long been charged with too many purposes without adequate funding to accomplish these assigned purposes. Senate Bill 2325 entitled the "Vocational and Adult Education Consolidation Act of 1982" states that $500 million dollars will be made available to states to "modernize their vocational and adult education delivery systems to better meet the national need to provide trained individuals for employment related to national economic growth and development."

Specially, this level of funding is proposed to:

(1) Meet the needs of youth and adults in all communities for vocational education;

(2) Strengthen the ability of states and local systems of vocational education to promote and respond to economic development;

(3) Provide equal educational opportunity in vocational education for all students;

(4) Meet the needs of employers for a skilled and literate workforce; and,

(5) Enable adults to continue their education to at least the level of completion of secondary school.

In considering the proposed funding and the listed purposes one can readily see a large discrepancy between funding level and assigned responsibility. In addition, the $500 million that has been mentioned is not totally available. The money is to be apportioned as follows. From the total of $500 million available nationwide, $50 million is reserved for the Secretary of Education for discretionary projects. Of the remaining $450 million, 13% or $58,500,000 is reserved for adult basic education. The remaining amount for what has been considered vocational education is $391,500,000 to be divided among the states. It appears that this bill is intended to perpetuate the previously identified problem of too many purposes for the funding being proposed.

Another problem that surfaces with the proposed legislation is making vocational education a part of a block grant. The basis for excluding vocational education from the block grant is one of identity. By setting vocational education apart as a separate act Congress will be reinforcing the fact that, based upon vocational education's past record and current mission, it must have a separate identity in order to be a part of this nation's recovery from its current economic situation by the training of skilled, employable workers.

CONCLUSION

In this statement we have shown that the federal government has had a long history of funding and participating in vocational education. This participation must continue on if the United States is to meet its needs for skilled workers on a nationwide basis. The proposed funding level of $391,500,000 is simply not adequate to carry out the mission of the legislation currently being studied. A more realistic amount would be $1.5 billion. This figure would allow the purposes of vocational education to be accomplished in a manner that is reflective of a nation that is truly concerned with training skilled workers to participate in the work place.

Another matter of concern is the two year duration of the proposed legislation. One can only assume that a two year limit as such means that at the end of this time span there will no longer be any federal involvement in vocational legislation. Based upon history and projecting into the future, it seems imperative that a federal presence is needed until at least 1990 to insure a coordinated national training effort to keep America's workers trained and on the job.

The United States must continue to support vocational education and within vocational education those components that contribute to program improvement. Without research, teacher training, curriculum development, adult vocational education, and cooperative work experience the program improvement enterprise will falter and vocational education will cease to be the major educational system for training all population groups to take part in employment. Vocational education has the system in place; it now needs your support to continue its mission and assist in the revitalization of America.

Chairman PERKINS. Let me thank you very much. I have been made aware of a number of teachers leaving the field, and the difficulty of encouraging people to enter the field because of the inadequacies of the funding.

Mr. David Thomas, of Milk Marketing, Inc. We are glad to welcome you here. You go ahead, Mr. Thomas.

STATEMENT OF DAVID C. THOMAS, DIRECTOR, MILK MARKETING, INC., OHIO (AGRICULTURE)

Mr. THOMAS. Thank you, Mr. Chairman and members of the subcommittee. I would like for my written statement to be recorded.

I am David C. Thomas, chairman of the American Vocational Association Agricultural Education Advisory Council. My views today represent educational needs from the agribusiness and prodution agriculture perspective rather than the professional education position. I am Director of Member Services and chairman of a management committee of Milk Marketing Inc., headquartered in Strongsville, Ohio. MMI is a dairy cooperative operating in an 8-State area with dollar sales approaching three-quarters of a billion dollars. MMI operates in Kentucky—Bracken, Mason, Robertson, and Lewis counties—Michigan, Ohio, Pennsylvania, New York, Maryland, Indiana, and West Virginia.

My professional career includes agriculture editor for a radio station, public relations associate for a pharmaceutical firm, vocational agriculture instructor, vice president of a regional farm supply cooperative, and associate vice provost for extension at the University of Missouri at Columbia.

Chairman PERKINS. Excuse me, but I want you to tell me a little later whether we are losing a lot of dairymen in Mason, Fleming, and Lewis counties. Go ahead.

Mr. THOMAS. OK.

On my professional career I mentioned the vice president of a regional farm supply cooperative and associate vice provost for extension at the University of Missouri, Columbia. I am a product of vo-

cational agriculture from southwest Missouri. I served as a State FFA officer and received the highest degree of American Farmer. Much of my success can be credited to vocational agriculture and the FFA. FFA has and is developing individuals in citizenship, leadership, and cooperation in addition to specific skills for employment in the work force.

Mr. Chairman, I would like to share a personal experience which exemplifies the development the written testimony is addressing.

During my senior year in high school, I was playing in a conference championship baseball game. In the bottom of the sixth inning, I was the leadoff batter. The first pitch struck me in the left temple under the helmet. I was rushed to a local hospital where it was diagnosed as a serious concussion, moved to my hometown of Monett, Mo., where they thought, again, it was a serious concussion and I would be laid up for a week to 2 weeks.

By Saturday morning I had gone into a coma. I was rushed to Springfield, Mo., where upon arrival I underwent brain surgery. The neurosurgeon told my parents before the first surgery that there was a 50-50 chance for life. That Saturday afternoon the neurosurgeon told my parents and minister that the first surgery was not successful, that there was very little that he could do, but he would be willing to go in and perform the second brain surgery, if my parents wanted. I lost three-fourths of my sight. I was paralyzed on the right side, was in coma for 3 months, but I am very thankful to have the opportunity to be able to be here to share with you my experience following that accident.

I attended a rehabilitation center, where I learned to read braille. I used a white cane. Most importantly, through that rehabilitation center I was able to relearn the leadership skills that I had acquired through the FFA, and to be able to redevelop self-confidence attained through the vocational education programs.

In order to continue this vocational education programs, that personally means much to me and thousands of others, these assumptions are necessary:

First, a Federal presence is expected, accepted, and essential in the present and the future of vocational education and most specifically for agricultural education.

Second, a Federal presence is best developed and implemented as a Federal-State-local partnership.

Third, the seat of democracy continues to be a seat of leadership as indicative of Congress by creating education through land-grant institutions in 1859 for agriculture.

I would like to call attention to the chart to my right and to our left, Mr. Chairman, pointing out the role that agriculture plays. Agriculture is our Nation's No. 1 industry, with over 23 million people employed in the total food and fiber system. One farmworker supplies enough food and fiber for 78 other people. Agriculture plays a vital role in our national defense and contributes $45 billion toward the balance of trade. Yet, consumers have paid a regularly decreasing share of their income for food and fiber raised on farms.

American agriculture is the only industry with regularly increasing productivity. In 1981, farm income was 57 percent of parity, which is lower than during the Great Depression. A couple of ex-

amples: a tractor that costs $13,900 in 1973, 9 years later costs $53,000. In 1973 it took 5,900 bushels of corn on 70 Minnesota acres, while today it takes 23,000 bushels from 270 acres to purchase the above tractor.

I was reading in the paper last week, the Plain Dealer pointed out that one particular farmer going to dispersal was paying $90 an hour for the interest on his operation. Another point as far as the land in Minnesota, last year selling for $2,800 an acre, last week sold for $1,200 an acre.

For 75 years, agriculture has been supported by Congress through vocational education in agriculture. I would like to see this support continue.

Chairman PERKINS. Where was this land? I know land value started downward last year, but a drop down to $1,200 an acre is an amazing drop.

Mr. THOMAS. It was in Minnesota.

Chairman PERKINS. Where did it take place?

Mr. THOMAS. It was in Minnesota, Mr. Chairman.

Chairman PERKINS. In Minnesota?

Mr. THOMAS. Right.

Chairman PERKINS. In a farming area?

Mr. THOMAS. Excellent farming area, and it was bought by a younger individual.

Chairman PERKINS. A lot of those farmers are going broke too, aren't they?

Mr. THOMAS. Right. The situation is unfortunate there.

Chairman PERKINS. Yes.

Mr. THOMAS. I would like to share some concerns about the effects of additional cuts in Federal funds for vocational education. Questions such as who will provide and develop leadership in rural communities; who will train youth and adults, disadvantaged and handicapped, and assist them not to be dependent on other forms of Federal support.

I would like to call your attention to another chart on my right, your left, Mr. Chairman, which points out we are not meeting agricutural employment needs at the present time. What would happen if additional cuts come about. Additional concerns, the program quality and quantity will be reduced.

What about the quality and competence of teachers in the secondary vocational education programs? Loss of State supervision and teacher education personnel. How will the equipment be properly maintained and upgraded?

A personal note that I ran across yesterday. In 1978, a concentrated effort was made with the previous administration to secure a secretary for the Federal program officer for agriculture education. Yesterday I found out that due to the RIF policy, that position that once was reestablished has now once again been eliminated, and the Federal program officer for agriculture education has no support staff.

Most of my remarks have been directed to secondary vocational education. In the mid-seventies I served on a postsecondary advisory committee in Missouri. I had a tutor very much involved in that postsecondary institution. As an employer, I interviewed and subsequently hired over 50 of the graduates into management training

positions from postsecondary agriculture programs. Last week in Ohio I employed another individual coming out of a 2-year program. With the budget cuts, who will provide the training and development necessary for agribusiness and production agriculture?

Being in management, I view management as the ability to get things done through other people. To me, human relations is 75 percent of management. As an example, last week for 2 days, along with five of my associates, we went through a very intense 2-day interpersonal relations seminar. Vocational education has so much to provide. The supervised occupational experience program provides an excellent opportunity for today's youth to learn to accept responsibility, and to me through this SOEP program they can earn what the four-letter word "work" is all about.

I might just stress, just a minute being on college campus as president of the student body of the University of Missouri in the late sixties, right in the middle of the student unrest I made the statement many times that I felt sorry for the individual who had not had the opportunity to get up at 5 o'clock in the morning, milk that old cow or slop that old hog, and to learn what responsibility was about. I think that through vocational education we are able to provide some of this responsibility.

As a father of a 3-year-old daughter living in a suburban community, I am concerned as to how she will be able to encounter many of the experiences that her mother and I experienced through vocational education. Where will she get this if we do not have a quality vocational education program?

I totally support a panel member, Mr. Lockwood's, comments yesterday that vocational education should not be limited to non-college-bound students. The question arises, what will happen if we go to block grants. To me it is obvious: The administration, Federal Government, would be showing their priorities.

Having just recently completed course work for a Ph. D. in educational administration, the message was quite clear in the curriculum of the school of finance and budget. Dollars are limited. Where do the cuts come from? In most cases that local superintendent would go to the most vulnerable areas.

Let's take a local superintendent at Maysville, Ky. Can he singlehandedly address the No. 1 industry of agriculture which contributes significantly to the national defense and balance of foreign trade? He has to look specifically at Maysville as far as that local school system, and that is what concerns me as far as additional cuts and block grants.

At a time of great national need for revitalization and increased worker productivity, it seems inconsistent to reduce funding to one of the most successful vehicles created by Congress, to improve the viability and to improve efficiency of a major segment of our economy. Rather, it would seem to be reasonable for Congress to use vocational education in agriculture as a model for their investment of appropriations as we strive to improve the Nation for all citizens.

While the consequences to the local level are easily apparent, the consequences to the Federal interest should not be overlooked. The United States is now the only industrialized country in the world without a formal systematic program for preparing its work force. The presence of vocational agriculture programs in communities is

an investment for the future viability of America. The continuation of our largest export industry and the basis for a strong international presence and defense capability.

Professional involvement of agriculture education has been one of the strongest groups found in education. This has been because of the high level of cooperation between Federal, State, and local entities.

In addition to the technical knowledge and skills that a young person gains, there is also the very important development of leadership that is so vital not only to the agriculture industry, but to the country as a whole.

If we accept the premise that agriculture is one of our most basic industries, then the economic effects on communities and the agriculture industry due to the proposed budget cut would be detrimental to the economic recovery of this Nation.

A Federal presence in vocational education is critical. The partnership of Federal, State, local entities has proved to be very reliable for the past 75 years. A Federal commitment authorizing such a partnership will provide for a system to provide technical knowledge, skills and the development of human relation qualities which are vital not only to agriculture but to our country as a whole.

Mr. Chairman, I thank you for the opportunity to share these thoughts and concerns.

[The prepared statement of David Thomas follows:]

PREPARED STATEMENT OF DAVID C. THOMAS, CHAIRPERSON, ADVISORY COUNCIL, AGRICULTURE EDUCATION DIVISION, AMERICAN VOCATIONAL ASSOCIATION; AND DIRECTOR, MEMBER SERVICES, MILK MARKETING, INC., STRONGSVILLE, OHIO

Mr. Chairman, Members of the Committee:

I am David C. Thomas, Director, Member Services, Milk Marketing, Inc. Stongsville, Ohio. Milk Marketing, Inc. is a dairy cooperative, operating in an eight-state area, serving 9,300 commercial daily operations, and representing $3/4 billion worth of business each year. I am presently serving as chairperson of the Advisory Council of the Agriculture Education Division of the American Vocational Association. I would like you to know, also, that I am a direct product of agriculture education, first as a high school vocational agricultural student, and then as a teacher of agriculture education.

It is a pleasure to respond to the opportunity to offer testimony to this Committee of the United States Congress. I seize this opportunity for three reasons. First, I sustain a concern for the clients of agricultural education, rural industry and business, farmers and all of those who rely on the agricultural environment as a place to invest a career. Second, I have a concern about the federal legislation which has been proposed, the legislation which will be proposed in reauthorizing vocational education and the messages which the Congress and the Executive Branch need to hear before acting on such legislation. Third, I have a concern for the American consumer whose entire view of inflation is conditioned by the costs of food and fiber, costs which have been kept low by an efficient agriculture and an effective agricultural education.

This testimony derives from messages which have been assembled from across the country -- from students, teachers, agricultural leaders, school district superintendents, business leaders and the flood of news reports about what is happening in rural communities. Some of the messages convey

puzzlement, some are given in anger and all reveal apprehension. Confidence in America's form of government appears to be unshaken, but it is difficult to know how long this can last. As in all previous depressions, the rural sector is again required to accept the heaviest burdens and the most upsetting consequences. This is not new. It is new, however, for the federal government to shift even more burdens on small communities during a depression and particularly, as I will point out later, the burden of sustaining a flow of human resources and of opportunity. Even during the depression of the 1930's, the federal government did not withdraw or threaten to diminish its role as a partner with states and local communities in supporting a generous share of the costs of agricultural education. The consequences of this earlier commitment ended in a happy story, the story of a nation prepared for defense activities on a world wide scale and prepared for post-war recovery and growth.

This testimony is surrounded by three assumptions which are accepted as axiomatic by people in agricultural communities. Since they now appear to be less acceptable by some who are elected than by the agricultural electorate, they are reiterated here as a reminder that this testimony, and any subsequent vocational legislation, would be rudderless without them. They are:

1. That a federal presence is essential, indeed crucial, as it relates to the agricultural sector. On every farm and in every agri-business, this presence is felt in commodity embargoes, in federal monetary and fiscal policy, in the regulation of prices, in minimum wage laws, in agricultural extension services,

in interstate commerce and in many other ways. It is foolhardy, therefore, not to accept the reality of the importance of a federal presence in matters of information, training and education. The cleanness of the differentiation of federal-state responsibilities for agriculture education as it may have appeared in the 10th Amendment to the Constitution and in the current Administration's proposed "new federalism" is no longer clean. A federal presence is expected, accepted and essential in the present and the future of all vocational education and most specifically for agricultural education,

2. That a federal presence is best developed and implemented as a federal-state-local partnership. Since there is an essential federal interest and since there is an important state and community interest in agricultural education, the multi-level interests are best served by evolving relationships which are mutually interactive and beneficial and
3. That the seat of democracy can continue to be a seat of leadership and more specifically, that this Nation's greatness is closely identified with the actions of Congress in deciding, in 1859, that the education of the sons and daughters of farmers and mechanics is important to such greatness. It is important enough to not become an ad hoc activity.

Federal leadership created the system of Land Grant institutions out of which developed expanded opportunities for a new category

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of citizens along with heightened levels of educational and agricultural leadership.

I turn now to the four major questions to which the remainder of this testimony will be addressed. They are:

1. What does vocational agriculture do in the communities of the nation?
2. What is the present situation in these communities?
3. What are the consequences, real and projected, of the budget reductions already made and proposed?
4. What is the needed Congressional response?

What Does Vocational Agriculture Do in Communities?

In its contribution to the agricultural sector, vocational agriculture has always accepted a dual mission. The first is to strengthen communities by elevating the capacity of the agricultural and agri-business environment to accept and utilize developments in science, technology and management. The second aspect of the mission is to prepare individuals for useful and rewarding careers in these environments.

These are not disparate goals. Vocational agriculture has always accepted both -- to enhance the community work setting and to prepare individuals for the work. Much of it occurs in small communities. The youth activity associated with the program, the Future Farmers of America, has become a major seedbed for rural leadership and personal development.

While the mission is dual, the functions performed by agriculture education are multiple. The enrollment, now about 800,000 is not indicative

of the total array of services provided to communities through vocational agriculture programs.

Vocational agriculture programs supply, for example, a measure of essential complementarity with a number of other public programs involving such activities as soil conservation, agricultural development councils, agricultural exhibits and numerous voluntary activities involving individuals of all ages.

Vocational agriculture programs are found in many small communities with populations of, say, less than 15,000 where instructional services are provided by a single local school district to multiple target groups -- secondary, post-secondary and adults.

Vocational agriculture provides for:

1) Community Improvement
2) Improvement of living conditions of individual farm families
3) Preparation of young people for employment in the Agriculture industry
4) Training and retraining of young and adult farmers
5) Assisting the local agri-business industry with implementing technological improvements.

The vocational agriculture teacher provides leadership in community activities that are designed to improve the overall community. These activities may range from those that instill community pride to those that actually provide recreational facilities for persons in the community. In addition, through the youth organizations (FFA and NPASD) many activities and projects are conducted that provide the nucleus for eventually total

community involvement. This provides not only for community improvement but provides an excellent medium for youth leadership development. This activity alone is well worth the cost of vocational education in agriculture - what could be more important than the development of tomorrow's leaders.

Vocational agriculture assists in improving living conditions of individual farm families. Working with individual farm families, the vocational agriculture teacher provides leadership and technical instruction which results in changes that very definitely improve the farm families living conditions. Such activities as improved water systems, renovation of electrical wiring on the farm, home landscaping, food preservation and energy conservation are just a few of the many activities in which assistance is provided.

The vocational agriculture program provides training to young people that assists them with developing knowledge and skills necessary for gainful employment in the agriculture industry. There is no other source of training that will prepare young people for this type of employment. In addition to the technical knowledge and skills that a young person gains, there is also the very important development of leadership that is so vital not only to the agriculture industry but to the country as a whole.

One aspect of the vocational agriculture program is the training and retraining of young and adult farmers. This phase of the program has become

extremely important during the last year or two. The agriculture industry is having difficulty and will require a very different or intensified program of farm management if agriculture as we know it is to survive. Farming by its very nature requires instructional programs that are individualized and near the farmer. Vocational agriculture is designed and very capable of providing this training.

Another very important function of vocational agriculture is that of providing assistance to the local agricultural industry in implementing technological improvements. Working with members of the local agriculture industry, the teacher of agriculture can assist in establishing training programs for employees of the industry that may be required by technological advances in agriculture.

Along with other federal agricultural activities affecting local communities (e.g. the Soil Conservation Service, the Farmers Home Administration, the Federal Land Banks, the Federal Extension Service and the Rural Electrification Associations), the program of vocational agriculture has become an integral part of the expectation which those in the agriculture and agri-business sector have come to expect as a durable, stable, and friendly intervention. As an educational intervention, it has been sustained since it first began 75 years ago with the passage of the Nelson Amendment to the Morrill Act. It is with astonishment, apprehension and dismay that there is now some contemplation of its being diminished or that its financial costs be shifted to local governmental jurisdictions.

Repeatedly the cost-benefit relationships of vocational agriculture programs have been little short of spectacular. Such studies were done by Cvancara (1966), Persons and Swanson (1967) and by Richardson (1979).

Despite predictions to the contrary by those with scant knowledge of the agricultural sector, teachers to serve such communities have been in short supply for more than two decades. Moreover, the demand for those trained by such teachers has never been fully met. Table I in the appendix shows the demand and the need at only one of the levels, the secondary level.

What is the Present Situation in these Communities?

The present situation in rural communities has three dimensions, the (1) farm situation, (2) the business situation and the (3) agricultural education situation. In turn, I will discuss each.

Farmers have subsidized the American consumer since the 1950's. The consumers have paid a regularly decreasing share of their incomes for food and fiber raised on farms. American agriculture is the only industry with regularly increasing productivity. In 1981, farm income was 57% of parity which is lower than during the "Great Depression".

The numbers of farms are increasing. Until the current recession, the average age of farmers was decreasing. The need for vocational education in agriculture for the younger farmers and their children is increasing. The presence of a vocational agriculture program in communities is an investment for the future viability of America, the continuation of our largest export industry and the basis for a strong international presence and defense capability.

Businesses outside of agriculture and agri-business are dependent on a strong agricultural economy. Approximately 70% of the U.S. population live in areas classified as rural. The central goods and services businesses of these areas are directly tied to the general economy. These businesses are the first to feel the weakness of lowered farm income. In one rural

Minnesota community, clothing, shoe and other service stores have already closed their doors this year.

The tax base in rural areas has begun to erode. The capacity of local and state entities to raise dollars for education has been severely impaired. One recent example was the purchase of 150 acres of land ($2800/acre last year) for $1200 per acre this year in southern Minnesota. This is happening across the nation. The long-term implications for all education are evident.

Calling themselves the Farm Crisis Group, the bipartisan group of farm-state members of this Congress were not overstating the situation when they introduced the "Farm Crisis Bill" on April 28. Farm income, they noted, is down 60 percent and bankruptcy has reached a 50 year high. Farm equipment and supplies dealers are being smacked by plunging sales.

In its April 2 issue, the Farmers Forum serving the Red River Valley of Minnesota and North Dakota, listed 92 farm auctions within the space of one month. All were substantial farming operations being liquidated at the beginning of the planting season. The schedule was so full that four of the auctions were scheduled on Sundays.

Earlier this year a 135 horsepower farm tractor stood parked in front of the Minnesota capitol. A sign on the tractor showed that its price had risen from $13,900 in 1973 to $53,000 in 1982. In the same period, the price of corn has dropped by $.09 per bushel. In 1973 it took 5930 bushels of corn grown on approximately 70 Minnesota acres to buy the tractor. In 1982 it takes 23,000 bushels of corn grown on approximately 270 acres to buy the tractor.

Mr. Chairman, the agricultural industry is not a dinosaur industry in need of reorganization or restructuring. It is a productive industry which has relied on education and training and is now a victim of circumstances

beyond its control. Widespread bankruptcy across the agricultural industry has no beneficiaries; it has only victims. Most victimized is the economic stability of the entire American enconomy.

I turn now to the story of education and particularly the agricultural education situation in these communities. Most have had declining enrollments, a demographic phenomenon which now compounds the fiscal crisis. There are few opportunities to close a school; many of the communities have only one school. When there are declining enrollments and an erosion of the tax base, it is necessary to minimize program offerings, delay maintenance and postpone the replacement of equipment. In many high schools in rural communities across the nation, mathematics is no longer offered beyond the 9th grade. Electives are disappearing from the curriculum. Vocational agriculture, a mainstay in rural communities, is now in serious jeopardy.

The Consequences of Budget Reductions

Budgets cuts have occurred at all levels -- federal, state and local. But the federal cuts began first. They were disguised, as are most budget cuts, by lofty labels. In 1963 the Congress initiated "block grants" disguised by the term "decategorization" to pave the way for loosening the federal-state partnership in vocational education. In 1968 the "block grant" approach was refined even more, and the federal share of the partnership declined as state and local governments absorbed more of the coats.

By the time the 1976 Amendments were enacted, two trends became transparently visible. First, the federal government was investing less money in vocational education, measured as a proportion of total GNP or total federal expenditures, that it had in the previous 40 years. Second,

agricultural education was no longer mentioned in authorizing vocational education legislation. Agriculture was mentioned only to the extent that a person representing the agricultural industry was required on the state advisory councils.

We now observe a new Bill which has been introduced, S.2325, in which there is no mention of either agriculture or agricultural education in what purports to be vocational legislation. It authorizes a token appropriation, a continuation of a "block grant" approach to a further erosion of the federal-state partnership and a term of only two years.

Impact of Cuts

When queried about the effects of cuts in federal funds for vocational education, the National Vocational Agriculture Teachers Association stated the following:

> "It is difficult to generalize the impact of decreasing federal dollars for vocational education on the local school due to the variation in methods of allocating funds through state and local vocational education plans. Compounding the effects of lost vocational education monies is the reduction of federal support for other educational programs. Local education agencies/units will likely shift funds away from "high cost" programs, such as vocational education, in order to maintain other vital services and programs.
>
> The NVATA can project some effects on vocational agriculture programs which will occur because of reduced federal support of vocational education. They include:
>
> 1) Local education agencies/units who rely heavily on federal vocational education funds will be forced to drastically curtail and/or eliminate vocational agriculture programs at the secondary, post-secondary, and adult levels. Students, both youth and adult, will thus be denied occupational preparation in agriculture. If we accept the premise that agriculture is one of our most basic industries, then the economic effects on communities and the agricultural industry due to the proposed budget cut will be detrimental to the economic recovery of the nation.

2) Students; youth and adults, disadvantaged and handicapped; needing training or upgrading will be unemployed or remain underemployed and will likely become dependent on other forms of federal support (i.e. unemployment, welfare, etc.).

3) The acute shortage of skilled workers will continue to plague business and industry's efforts to revitalize and increase productivity.

4) Program quality will be reduced by the effects of one or more of these conditions.
   a) Obsolescence of equipment making it difficult to provide relevant instructions and training in schools,
   b) Lack of funds for instructional supplies,
   c) Loss of funds for transportation to supervise and provide individualized instruction with student supervised occupational experience programs,
   d) Loss of local vocational education leadership and coordination personnel,
   e) Loss of funds for program expansion to address increasing demand for skilled manpower in existing, new and emerging occupations.

5) Loss of state supervisory and/or teacher education personnel and the reduced ability for such teacher and program support services as:
   a) In-service education,
   b) Program supervision,
   c) Program leadership,
   d) Curriculum and instructional materials development, and
   e) Coordination and planning of vocational student organization activities."

In summary, there is a defendable case to be made for an increased federal investment in vocational education.

Need for Federal Program

There are other major reasons for assuring that federal funding remains available for vocational agriculture. Professional involvement of agricultural education has been one of the strongest groups found in education. This has been because of the high level of cooperation between federal, state, and local levels. Professors who prepare local teachers of agriculture work in concert with the schools and the State Department of Education. The State Department of Education, under the leadership of

the state supervisor or head specialist in agriculture, supervises local programs and cooperates with the teacher education institutions. The Federal Government Program Officer for Agricultural Education coordinates the entire program working through the formal lines of communication established in the vocational legislation and with the elected national leadership of the teachers, supervisors, and teacher educators. This has resulted in a nationally coordinated program with clearly defined program objectives, national youth organization created and directed to enhance the learning experiences of secondary and post-secondary students, as well as a program of comparable quality from state-to-state.

No federal involvement in vocational education, as one of the recent administration proposals suggests, would be another signal to the states to not offer state-wide leadership for vocational education in agriculture programs. Historically, the vocational supervisor at the state level was one of the few who regularly provided technical and educational expertise to local schools through frequent on-site assistance. The quality of teaching, local programs and the ability to address state and national priorities was enhanced by the state leadership who conducted regular state-wide conferences, supported needed inservice-education for teachers and worked with local schools. The further reduction of state agriculture education supervisors (staff) who play a vital role in coordinating, motivating, and leading the vocational agriculture program will result in a deterioration of local program quality.

Another strength of the vocational agriculture education programs has been the close integration of teacher education at the colleges and

universities with the state leadership. Teacher educators regularly offer inservice education, develop curriculum materials, conduct applied research, follow-up beginning teachers and perform many other services needed by teachers in the field. Because of the multiplicity of roles provided by teacher education above and beyond the typical university activities, federal funding for teacher education support might ultimately reduce the numbers involved in serving teachers by more than one-half nationally. Many regular services to vocational agriculture education would end.

At a time of great national need for revitalization and increased worker productivity, it seems inconsistent to reduce funding to one of the most successful vehicles created by Congress to improve the viability and improve the efficiency of a major segment of our economy. Rather it would seem to be reasonable for Congress to use vocational education in agriculture as a model for their investment of appropriations as we strive to improve the nation for all its citizens.

While the consequences to the local level are easily apparent, the consequences to the federal interest should not be overlooked. The United States is now the only industrialized country in the world without a formal, systematic program for preparing its work force.

The Needed Congressional Response

What is the needed Congressional response? First, we want it understood that we do not want to be regarded as a vested interest engaging in special pleading. We are quite aware of the need for a balanced federal budget.

We request no increase in the index of effort which the federal government provided to the federal-state partnership in the 1950's or the 1960's. Measured as a proportion of GNP, total federal outlays or educational expenditures in those years and corrected for inflation to 1982 dollars, such an index of effort would require a federal appropriation to vocational education of about $1.5 billion.

Second, we request a resumption of a mutual federal-state partnership, one in which each is a reliable partner and finally, we request a durable federal commitment, one which authorizes the partnership for periods of at least 5-10 years.

Prepared by: Byron Rawls, Program Specialist
Agriculture, Agribusiness, and Natural Resources Occupations
Office of Occupational, Vocational, and Adult Education
U.S. Department of Education

1982 MANPOWER NEEDS FOR AGRICULTURE/AGRIBUSINESS AND NATURAL RESOURCES

Source: Five-Year State Plans for Vocational Education

	01.0100 Agricultural Production	01.0200 Agricultural Supplies/ Services	01.0300 Agricultural Mechanics	01.400 Agricultural Products/ Processing	01.0500 Ornamental Horticulture	01.0600 Agricultural Resources	01.0700 Forestry	Other	Total
1982 National Estimate of Needs	91,650	14,110	16,055	21,225	51,260	5,440	8,585	29,165	232,040
1978 Completions of Secondary Vocational Agricultural Education	80,459	9,385	34,457	3,481	32,765	6,923	4,639	8,907	181,014

Chairman PERKINS. Thank you very much.

Our next witness is Dr. Richard Lynch, professor of marketing education, Virginia Polytechnic Institute.

STATEMENT OF RICHARD LYNCH, PROFESSOR, MARKETING EDUCATION, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (MARKETING AND DISTRIBUTIVE EDUCATION)

Mr. LYNCH. I am Richard Lynch, professor and head of marketing education in the division of vocational education at Virginia Polytechnic Institute and State University. This morning I would like to share with you certain views and information on that vocational education program called marketing and distributive education. Specifically, I will describe our program, explain its role in our national economy, and in vocational education, provide a few facts and figures on the effects of Federal support to that program, and make a few recommendations regarding a continuation of Federal presence in marketing and distributive education.

Marketing and distributive education, or MDE, identifies vocational instructional programs designed to meet the needs of people who have entered or are preparing to enter marketing occupations or occupations requiring proficiency in marketing activities.

In MDE we train and educate people for that segment of the economy that brings goods and services from those who produce them to those who use them. Typical marketing activities include selling, advertising, public relations, marketing, and produce research, buying and pricing products for resale, financing, transportation, inventory control, and of course the management of all of these business activities.

We are a people-oriented occupation, and, therefore, instruction in our programs includes people-oriented skills. We often say that marketing and distributive education is the people end of the continuum of vocational education programs.

Marketing activities exist in virtually every company in this country, manufacturing firms, and of course wholesale and retail firms are primarily involved with the marketing of products and services.

Recently, service industries have enjoyed phenomenal growth in this country, and the largest employment in service occupations are in profit-oriented businesses, hotels, motels, home and auto repair companies, airplanes, insurance companies, beauty salons, and so on. Many of these are sole proprietorships with a relatively small annual sales volume.

It has been estimated that 30 to 35 percent of the population are employed in marketing or in an occupation requiring proficiency in marketing.

David Blond, senior economist in the Department of Defense, recently pointed out that more than 4.5 million new workers will be needed in occupations by 1987. A large percentage of these needs are in marketing-type occupations, sales and services. Others, of course, are in clerical, but according to Blond's figures, these two major occupational categories, clerical and sales workers and service workers comprise the greatest need for skilled workers in the

1980's. It is the primary goal of marketing and distributive education to train for these marketing sales and service occupations.

A second goal of our program is to improve the techniques of marketing. We assist businesses in doing a better job, we hope, in meeting the needs and wants of their customers and thereby increasing productivity specifically, or especially, in the retail, wholesale and service industries. Productivity studies in the last 20 years have all cited the service industries, including retail and wholesale trade, as having the poorest productivity showing on whatever measurements were being used. The reasons given for this poor productivity are that so many of the workers are untrained, unskilled, and inexperienced.

Yesterday we heard from Mr. Lockwood, a business person, of the tremendous need for training to meet the alarming failure of small businesses and of the role that small business can and should play in this country in providing for employment, improving productivity, and job creation.

Given adequate funding, vocational education could provide more training for small business managers and employees who have tremendous potential for solving some of society's economic problems, and it is in the mission of marketing and distributive education to train workers and upgrade employment for this important goal of the American economy and the labor force.

A third major goal of our programs is to instruct youth and adults in the principles of the free enterprise system, in competition, the profit motive, the social responsibilities of business, and business ethics.

We also think you should know that our programs are jointly planned and developed by business and education. Fifty percent of all high school marketing and distributive education students are employed part time in local businesses as parts of their education and training for marketing occupations. This on-the-job training referred to earlier as cooperative education is jointly planned, developed and supervised by the student's employer and his or her teacher with advice and counsel largely coming from business advisory committees.

The economic impact of these marketing and distributive education students combining academic, vocational, and on-the-job education is considerable. For example, last year in my own State, over 8,000 high school co-op marketing and distributive education students earned in excess of $22 million. Marketing and distributive education personnel also develop and deliver short- and long-term courses and seminars for marketing managers and employees. In fact, 36 percent of our enrollments are in adult marketing programs.

I would now like to briefly discuss the effects of Federal support and reductions on our programs. Federal funds have been a major factor in the development and maintenance of marketing and distributive education programs. Time does not permit me to describe all of the positive effects of Federal funding on marketing and distributive education. Let me just say that Federal funds have been used directly or indirectly by marketing and distributive educators to educate nearly 1 million students per year in marketing and work skills appropriate to our economic system, to provide leader-

ship for marketing education in all States and territories, to offer teacher education programs at 110 colleges and universities, to help develop vocational and leadership skills among nearly 200,000 secondary and post-secondary students, where members of the Distributive Education Clubs of America, or DECA, a vocational student organization, and to develop research-based instructional materials for use by marketing teachers throughout a 29-State consortium known as IDECC, the International State Distributive Education Curriculum Consortium.

The effect of all of this? Studies indicate over and over that students are considerably better off for having completed our programs. They secure employment faster, are less apt to be unemployed than those of a comparable age, exhibit more job stability, obtain higher beginning wages, and receive more salary increases. Students completing marketing and distributive education programs feel their training was of great benefit to them in the labor market compared with students who did not have such training.

Marketing employers prefer to hire our graduates, and give a great deal of preference to those who have had marketing and distributive education vocational training.

Let me mention just very, very briefly some of the effects of Federal funding reductions. We are just now beginning to see the effects of those reductions, and in the written testimony I have provided specific data from nine States that did respond to the effect of Federal reductions. Let me just say that that response has indicated that we will see an average reduction in the number of programs and individuals served in the next few years of between 10 and 20 percent.

However, the greatest concern expressed by respondents focused on the effects of program quality. The initial cuts that are coming, and we have already experienced, have been in curriculum development, teacher education, research, program supervision, in equipment and instructional materials, and in supervision for a vocational student organization, in our case DECA.

Then, if I might, I would just like to conclude with a few recommendations for a continuation of a Federal role in vocational education. We feel that a continuing Federal presence is needed in vocational education, including marketing and distributive education as one of its major service fields. It is necessary to bring about a consistent time-effective and cost-effective approach to human resource development for our employment field. This Federal presence is our best avenue to maintain and expand private sector involvement, respond to prevailing national issues, and maintain high standards in education and training of people for marketing occupations.

Marketing and distributive education addresses several national issues, which cross State boundaries and need direction from the Federal Government. We feel that investment in human resource development should be a national policy that is supported with Federal dollars to encourage an apopropriate level of State and local investment in education and training to improve productivity.

Marketing and distributive education emphasize the development of people, the most important component in improving productivity in retail, wholesale, and service occupations.

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Marketing and distributive education should be a strong force in the development and success of small businesses in this country, thereby creating jobs and, again, improving productivit, and impacting unemployment. We provide a blend of education and training for marketing which is what business people in the wholesale and retail and service industries say is needed. States and businesses, especially those that are small and with limited resources, simply are not able to pick up the proposed reduction in Federal funds.

Finally, we feel this country needs a long-range plan for human resource development. To increase and maintain a high level of productivity in employment, to respond to changing technology, and to prepare educators and workers in keeping abreast of and coping with rapid change.

Thank you for your listening and for your assistance and support of vocational education.

[The Prepared statement of Richard Lynch follows:]

PREPARED STATEMENT OF DR. RICHARD L. LYNCH, PROFESSOR AND HEAD, MARKETING EDUCATION, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, BLACKSBURG, VA.

Mr. Chairman, Members of the Committee, I am Richard Lynch, Professor and Head, Marketing Education Division of Vocational and Technical Education, Virginia Polytechnic Institute and State University. I appreciate the opportunity to share with you certain information and views concerning that component of vocational education called "Marketing and Distributive Education." My remarks will be divided into four sections:

1. Productivity Through Marketing and Distributive Education
2. Effects of Federal Support
3. Effects of Federal Funding Reductions on Marketing and Distributive Education
4. Recommendations

PRODUCTIVITY THROUGH MARKETING AND DISTRIBUTIVE EDUCATION

The seriousness of the declining productivity and inability of business and industry to expand was highlighted in the February 15 issue of the Wall Street Journal, with the report that the nation's factories operated at a seasonally adjusted 70.4% of capacity in January; in the motor-vehicle and parts industry this figure was only 43.6 percent. The United States has dropped from first to seventh in productivity.

Dr. Herbert Striner, recognized expert on productivity issues states, "The wealth of any nation is a well-trained specialized labor force." Yet, according to Striner, "The U.S. has shown itself unwilling to invest in major training and education efforts to serve the skill needs of our private and public sectors. The inadequate investment in human resources is directly tied to our problems of inflation and productivity."

In this paper we will present:

A. A definition of marketing and distributive education

B. An explanation of the role of this program in our national productivity

C. Some facts and figures on the effects of federal support on programs in several states.

D. Recommendations for continuation of a Federal role in marketing and distributive education

Marketing and Distributive Education (MDE) identifies vocational instructional programs designed to meet the needs of persons who have entered or are preparing to enter marketing occupations or occupations requiring competency in one or more marketing activities. A brief description of the occupational field of marketing is necessary to fully understand marketing and distributive education.

MARKETING DESCRIBED

Marketing is the term that describes those business activities that bring goods and services from producers to consumers. It is often referred to as the "connecting

link" between manufacturing/production and consumption. The business activities associated with marketing include selling, promotion, (advertising, public relations, sales promotion); marketing research; buying and pricing products and services; physical distribution (order processing, material handling, transportation, storage, inventory control); finance and insurance management, and entrepreneurship. Successful companies have as their primary goal satisfying the needs and wants of consumers and, finally, a mutual exchange takes place; the customer receives a product or service in exchange for money (or other products or services). Hopefully, this transaction has resulted in a profit for the distributor and the satisfaction of the customers' needs or wants.

Marketing activities exist in virtually every company in this country. Generally, every manufacturing firm has a marketing department or unit. Wholesalers and retailers, of course, are primarily engaged in marketing activities. These companies range in size and volume from small independently owned businesses having annual sales of a few thousand dollars to those such as Sears, K-Mart, and J. C. Pennys with billions of dollars yearly in sales volume. Recently, service industries have experienced a phenomenal growth in this country. The largest employment in service occupations, are in profit-oriented businesses: financial institutions, hotels/motels, home and auto repair companies, airlines, legal firms, real estate agencies, insurance companies, beauty salons, dry cleaning establishments, etc. Many of these businesses are sole propietorships, with relatively small annual sales volumes.

It has been estimated that 30–35 percent of the labor force is employed in marketing occupations or in occupations requiring marketing skills. According to data from the "Occupational Outlook Handbook," the industries and businesses anticipated to experience the largest employment growth in the years ahead are those primarily involved with the marketing of goods and services. David Blond, Senior Economist in the Office of the Secretary of Defense tabulated that 4,521,390 new workers will be needed in business occupations by 1987. A large percentage of these needs are in the marketing-type occupations (sales and services); others are in clerical. According to Blond's figures these two major occupational categories (clerical and sales workers, service workers) comprise the greatest need for skilled workers in the 1980's: 19,725,970 in clerical and sales, 16,648,810 in service occupations.

ROLE OF MARKETING AND DISTRIBUTIVE EDUCATION

Marketing has been a key factor in the growth and development of the American economic system and our relatively high standard of living. Businesses are successful when they have people, products, and services that satisfy the needs and wants of consumers. A well trained labor force for marketing occupations is essential to insure that the products and services manufactured in this country are available to U.S. citizens in order to maintain our competitive economic position in the world market, to those of other countries. Marketing is a people oriented occupation; thus, marketing and distributive education comprises the "people" end of vocational education. Instruction not only includes skills in marketing activities, but in dealing with people as well. It is through instruction in these business activities and people-oriented skills that marketing and distributive educators fulfill the primary goal, that of preparing workers for the major occupational areas in marketing.

A second goal of Marketing and Distributive Education is to improve the techniques of marketing; to assist businesses in doing a better job in meeting the needs and wants of their customers and thereby increasing productivity especially in the retail, wholesale, and service industries. Productivity studies in the last 20 years have all cited the service industries, including retail and wholesale trade, as having the poorest productivity showing on whatever measurements were being used (e.g. output per worker hour or employment growth for an industry compared to its increase in GNP). The reasons often given for poor productivity showings are that so many of the workers are untrained, unskilled, and inexperienced.

One of the areas of our economy that is addressed in marketing and distributive education is small business management. Few people realize that:

70 percent of employees in the United States work for small businesses;
95 percent of businesses in the United States are small businesses;
44 percent of GNP comes from small businesses;
1 of 8 people are self-employed; and
440,000 new businesses start each year.

We know that training is needed when Dun and Bradstreet reports 529 small business failures in the week ending February 11, 1982, the highest number in the past 40 years. Nationally, there are reports that 50 percent of small businesses fail in the first two years. Given adequate funding, we could provide more training for

small business managers who have tremendous potential for improving productivity. In addition, we can reduce unemployment by preparing people to start their own businesses and thereby create jobs and expand employment. It is the mission of Marketing and Distributive Education to train workers and upgrade employment for this important goal of the American economy and the labor force.

A third major goal of marketing and distributive education is to build understanding throughout education of the wide range of social and economic responsibilities which accompany the right to engage in business in a free enterprise system. Marketing and distributive education programs instruct youth and adults in the principles of the free enterprise system, the profit motive, competition, entrepreneurship, the social responsibilities of business, and business ethics.

Marketing and distributive education programs in this country are jointly planned and developed by business and education. Business Advisory councils assist local educators in planning the program's curriculum and delivery systems, selecting equipment, finding job training sites, placing graduates, and evaluating programs for improvement purposes. Fifty percent of all high school marketing and distributive education students are employed part-time in local businesses as part of their education and training for marketing occupations. This on-the-job training (referred to as cooperative education) is jointly planned, developed, and supervised by the student's employer and his or her teacher. Typically, employment is in financial institutions, supermarkets, hotels or motels, department stores, restaurants, specialty stores and other retail, wholesale, or service businesses. The economic impact of these marketing and distributive education students combining academic, vocational and on-the-job education is considerable; for example 8,000 cooperative marketing and distributive education students in Virginia earned in excess of $22,000,000 in 1980–81 (an average of $2,750 per student). Comparable data on enrollment in cooperative education for post-secondary students are not available, although it is believed that as many as 50 percent of them are also enrolled in school-sponsored on-the-job training programs. Marketing and distributive education personnel also develop and deliver short and long-term courses and seminars for marketing managers and employees. Thus, the private sector is heavily involved in the planning and delivery of the marketing and distributive education vocational education program.

In summary marketing and distributive education is that program in vocational education that prepares people who need proficiency in marketing, assists in improving the techniques of marketing, and teaches the basic principles of the free enterprise system.

EFFECTS OF FEDERAL SUPPORT

Federal funds have been a major factor in the development and maintenance of marketing and distributive education programs. Table I shows enrollments in marketing and distributive education by states for close to one million students in fiscal year 1979. There has been an increase of about 20,000 enrollees in fiscal year 1980.

Federal funds are used to improve and expand vocaticnal programs through supervision curriculum development, in-service teacher education, research, equipment and instructional materials; vocational student organizations and support services.

The Distributive Education Clubs of America (DECA), our vocational student organization is partially supported by Federal funds through supervisory personnel and is a proven method of instruction for developing productive citizen-workers and future leaders in marketing.

In the past few years, Federal funds have been used to develop and maintain the Interstate Distributive Education Curriculum Consortium (IDECC). Currently twenty-nine State Departments of Education are participating in the development and dissemination of systematic approaches for planning, organizing, directing and evaluating specific marketing related occupations.

TABLE I.—ENROLLMENTS IN MARKETING AND DISTRIBUTION PROGRAMS (VEA), BY LEVEL OF PROGRAM AND STATE: FISCAL YEAR 1979

State/territory	Total	Below grade 11	Grades 11–12	Postsecondary	Adult (long term)	Adult (short term)
Total	942,057	66,210	303,663	231,963	57,065	283,156
Alabama	7,952	876	5,659	789	195	433
Alaska	2,667	404	1,447	670	112	34

TABLE 1.—ENROLLMENTS IN MARKETING AND DISTRIBUTION PROGRAMS (VEA), BY LEVEL OF PROGRAM AND STATE: FISCAL YEAR 1979—Continued

State, territory	Total	Below grade 11	Grades 11-12	Postsecondary	Adult (long term)	Adult (short term)
Arizona	30,097	165	2,357	13,712	0	13,863
Arkansas	5,212	433	3,105	0	46	1,628
California	138,842	2,948	22,391	79,232	23,289	10,982
Colorado	5,757	177	70	1,425	1,257	2,828
Connecticut	4,778	2,729	1,349	700	0	0
Delaware	1,563	334	1,019	210	0	0
District of Columbia	876	0	843	0	33	0
Florida	71,313	9,613	14,051	7,875	785	38,989
Georgia	11,762	1,460	6,252	435	415	3,200
Hawaii	3,713	304	1,079	1,544	208	578
Idaho	2,396	101	1,223	230	0	842
Illinois	58,857	8,652	21,555	14,696	3,466	10,488
Indiana	7,695	1,144	5,361	879	0	311
Iowa	14,008	40	3,959	1,527	1,924	6,558
Kansas	5,347	234	1,888	664	37	2,524
Kentucky	12,432	2,997	5,777	59	10	3,589
Louisiana	8,136	847	4,671	0	160	2,458
Maine	2,054	0	1,396	109	71	478
Maryland	9,345	322	2,722	3,391	0	2,910
Massachusetts	10,590	520	6,727	1,287	0	2,056
Michigan	31,807	1,657	19,369	7,706	46	3,029
Minnesota	25,937	0	9,568	3,372	0	12,997
Mississippi	8,125	597	4,662	820	50	1,996
Missouri	15,406	0	12,353	1,912	26	1,115
Montana [1]	1,278	178	868	0	41	191
Nebraska	5,681	10	3,410	1,117	274	870
Nevada	1,178	40	119	667	3	349
New Hampshire	1,986	100	1,800	82	4	0
New Jersey	21,132	1,396	9,785	5,382	135	4,434
New Mexico	3,028	147	2,043	0	749	89
New York	37,665	2,703	16,535	15,613	2,245	569
North Carolina	41,844	1,172	11,172	3,231	367	25,902
North Dakota	2,759	35	1,213	407	0	1,104
Ohio	63,886	9,590	11,896	1,044	6,347	35,009
Oklahoma	7,538	225	3,570	1,329	435	1,979
Oregon	11,268	212	2,127	5,855	466	2,608
Pennsylvania	16,374	1,353	9,500	3,961	512	1,048
Rhode Island	765	0	460	198	0	107
South Carolina	8,083	313	5,109	2,311	310	40
South Dakota	1,280	29	1,167	0	23	61
Tennessee	11,290	647	6,750	983	366	2,544
Texas	78,778	2,293	21,438	26,138	9,820	19,089
Utah	6,544	1,018	2,654	1,948	4	920
Vermont	866	16	236	0	0	614
Virginia	41,710	24	16,470	1,717	602	22,897
Washington	30,954	0	7,467	6,627	918	15,942
West Virginia	4,494	57	2,295	641	307	1,194
Wisconsin	29,563	6,727	1,116	9,411	491	11,818
Wyoming	1,134	22	1,112	0	0	0
American Samoa	57	0	0	57	0	0
Guam	89	42	47	0	0	0
Puerto Rico	14,138	1,302	2,428	0	516	9,892
Trust Terr. Pacific	0	0	0	0	0	0
Virgin Islands [1]	28	5	23	0	0	0
Northern Mariana	0	0	0	0	0	0

[1] No data supplied in 1978-79. Figures imputed from 1977-78 data.

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System, preliminary data.

In summary, federal funds have been used directly or indirectly by marketing and distributive educators, to educate nearly one million students per year in marketing

and work skills appropriate to our economic system, to provide leadership for marketing education in all states and territories, to offer teacher education programs at 110 colleges and universities, to help develop vocational and leadership skills among nearly 200,000 secondary and post-secondary marketing students who are DECA members, and to develop research-based instructional materials for use by marketing teachers.

And the effect of all of this effort? An analysis of several extensive state follow-up studies, several city or county school districts studies, and those reported in the 1980 edition of "Marketing and Distributive Education: Review and Synthesis of the Research" all indicate that students are considerably better off for having completed a marketing and distributive education program. They secure employment faster, are less apt to be unemployed than those of a comparable age, exhibit more job stability, obtain higher beginning wages and receive more salary increases. Students completing marketing and distributive education programs feel their "training was of great benefit to them in the labor market" compared with students who did not have such training. Marketing employers, too, prefer to hire graduates of marketing and distributive education programs. They give "a good deal of preference" to those who have had marketing and distributive education vocational training and rate them considerable higher on work attitudes than employees who did not complete such programs.

EFFECTS OF FEDERAL FUNDING REDUCTIONS ON MARKETING AND DISTRIBUTIVE EDUCATION

It is difficult to adequately describe the short and long-range effects of federal funding reductions of Marketing and Distributive Education. Several states have provided specific information relative to the effects of proposed budget cuts in their states.

1. In Indiana, membership in IDECC—the Marketing and Distributive Education consortium was cancelled. Professional development, in-service education, supplies, equipment, mailing, and printing budgets were all reduced by 60 percent. One teacher education program was closed. The Vocational Education Division in the State Department of Education was reduced by 34 percent; if further federal cuts are forthcoming, another 10 percent decrease in all budgets (including personnel) is anticipated. Five percent of the high school marketing and distributive education programs were closed, affecting 300 students.

2. In Virginia, three marketing and distributive education positions were cut and one state supervisory position will not be filled. Enrollment declined by 1,000 marketing and distributive education students. Virtually no state or federal funds have been allocated for marketing and distributive education curriculum development, research, in-service education, program supervision, equipment, and supplies. Marketing and distributive education teachers who resign or retire are not being replaced.

3. In Arizona, federal cutbacks have resulted in the closure of six marketing and distributive education programs affecting 300 inner-city, economically disadvantaged youth. Closures are expected in Tucson and Phoenix during fiscal year 1983 should federal funds be further reduced.

4. In Oregon, high school marketing and distributive education programs have been reduced by ten percent. The state supervisor has been given additional vocational programs to supervise. If further federal cuts are forthcoming, an additional 25 instructional programs could be lost.

5. In Wisconsin, three marketing and distributive education programs serving approximately 900 students will be cut next year. This will reduce enrollment by 13 percent.

6. In Arkansas, while they have carry over funds to maintain current programs this year, cuts of 20 percent in the following years are anticipated if the proposed recissions are accepted. This would result in 9,600 fewer students being served and deep cuts into program improvement and support services for special populations.

7. A study of future economic development in the State of North Carolina, indicates that jobs and training needs will be in retail trade, tourism, export trade, travel and small business development—businesses that depend on marketing expertise for their success. There will be 900,000 new jobs by the year 2000; 90 percent of these will be in non-manufacturing sectors such as services and retail trade.

8. In Georgia, the current cuts have been in services that impact on the quality of marketing and distributive education programs such as elimination of extended term contracts for teacher-coordinators, reduction of curriculum and staff develop-

ment funding, and a 25 percent cut in post-secondary supervision of cooperative training.

9. The 1980 Nebraska Annual Social Indicators Survey indicated that "preparation for employment" was the most generally acclaimed purpose of secondary schools as compared with general academic and college preparation. Considering projected employment of around 850,000 and at least 20 percent or 170,000 in marketing, with annual job openings of 11,000 and current enrollments in marketing education programs around 5,500, there will be a need to maintain existing programs and expand marketing education to meet the needs of individuals and businesses in Nebraska.

In summary, the responses that we received to inquiries about the effect of budget cuts indicate an average reduction in the number of programs and numbers of individuals served of between ten and twenty percent. The greatest concern expressed by respondents focused on the effects of budget cuts on program quality. The initial cuts are in areas such as curriculum development, teacher education, research, program supervision and in equipment and instructional materials.

RECOMMENDATIONS FOR CONTINUATION OF A FEDERAL ROLE IN VOCATIONAL EDUCATION

1. A continuing federal presence in vocational education—including Marketing and Distributive Education as one of its major service fields—is necessary to bring about a consistent, time-effective, and cost effective approach to human resource development for the employment field of marketing. This federal presence is our best avenue to maintain and expand private sector involvement, respond to prevailing national issues, and maintain high standards in education and training of people for marketing occupations.

2. Marketing and Distributive Education addresses several national issues which cross state boundaries and need direction from the federal government. Marketing and Distributive Education develops people for proficiency in marketing goods and services, increasing productivity in marketing, and teaches the social and economic responsibilities of business within a free enterprise system. Federal dollars are important to continue and to expand upon this effort; therefore, Marketing and Distributive Education should be defined and included in federal legislation appropriating funds for vocational education.

3. Investment in human resource development should be a national policy that is supported with federal dollars to encourage an appropriate level of state and local investment in education and training to improve productivity. Marketing and Distributive Education emphasizes the development of people, the most important component in improving productivity.

4. Marketing and Distributive Education can and should be a strong force in the development and success of small businesses in this country thereby creating jobs, improving productivity and impacting on unemployment.

5. Marketing and Distributive Education provides a blend of education and training for marketing which is what businesses in the wholesale and retail trade and service industries say is needed. States and businesses—especially those that are small and with limited resources—are not able to pick up the proposed reduction in federal funds. Without such federal assistance, these will be reductions in the number of students and employees trained; furthermore, federal cuts will greatly impart negatively on program quality factors: curriculum up-dating, teacher updating, research, facilities and teaching materials, teacher education and supervision and leadership.

6. The country needs a long-range plan for human resource development to increase and maintain a high level of productivity and employment, to respond to rapidly changing technology and to prepare educators and workers in keeping abreast of and coping with rapid changes.

Chairman PERKINS. I would like to start with you and go all the way across the table. I would like you to tell us, in view of the 16-percent cut that vocational education took the last 2 years, what effect will the proposed 32 percent additional cut have on vocational education, assuming that the Congress went ahead with this proposal.

Go ahead and tell us how it will affect the whole program, and I want to go all the way around there with you.

Mr. DRIER. I alluded, Mr. Chairman, to talking with 10 States prior to coming in today, and asked that basic question to a number of people. It appears as if the future cuts would somewhat reflect the cuts we made during the last year, in the curriculum development needed in our field, it is in the upgrading and retraining of the counselors we have, and they are talking about a 40- to 45-percent reduction in the counselor training and slots for counselor training.

The whole information system that has been put into place in 37 States up to this point would not be eliminated, but all new information, it would begin the information in that computerized and noncomputerized base would be eliminated.

In 2 years the information that planners, counselors and counselees would be used for decisionmaking in program planning, we would lose confidence in it.

The other thing they were saying, that over 45 percent of all projected new users are rural schools, correctional institutions, hospitals and so on, would no longer have the opportunity to tap into that national information system.

The other area was in practicing counselors within those agencies. There would be an immediate reduction equivalent to the amount of Federal and State reduction of practicing counselors in the schools.

Then you look at the national level in terms of the nationally significant moneys that are set aside. There would be almost a complete reduction of any research and development in the area of guidance and counseling.

When we look back since 1958, every time there is a reduction in the piece of legislation that triggers some improvement in guidance, the first area within that piece of legislation is guidance and counseling is cut, so they are projecting that they would lose most of their capacity to conduct research, produce products and methods based upon that research, so it would be slipping in that area.

Most drastically at the State level, over the last couple of years' guidance, supervision and leadership at the State level has been reduced in most States down to one person. The 10 States that I served indicate that local or State leadership in all dimensions of guidance and counseling, methods, techniques, information systems and so on, placement and so on, would be completely eliminated.

The next cuts would be enough to eliminate positive programmatic improvement leadership in the State, even though they might have one or two persons on staff, they would be serving the regulatory functions of the State Department so in essence in summary, Mr. Chairman, we would lose our leaderhsip capacity to make any kind of strides toward improvements.

We would lose the mechanism we have in place, data collection, data information systems that we have. We would lose our capacity to improve, and as the problems get more complex we need to move with those problems.

Chairman PERKINS. Thank you very much. Go right ahead.

Mr. LYNCH. I would like to mention three that I have seen with the effect of vocational education cutbacks of 16 percent. I provided in the paper data from nine States in terms of the effect that program cutbacks are having on enrollment.

Chairman PERKINS. Just a little louder.

Mr. LYNCH. There are three that I want to point out just very briefly. The first one is the number of students that are not being served because of program cutbacks. I have described in my paper what happened in Arizona, what happened in Indiana, what happened in Wisconsin, and what happened in Oregon with cutbacks, and so we are simply seeing students that are not being served because the local schools simply are not able to pick up the funding cuts.

A second one that I see of great concern is in the area of curriculum development, in facilities and equipment. Vocational education programs really ought to reflect the best and the most modern curriculum that we have available, and the best and the most modern technology if we are truly to train people for jobs.

We ought to reflect the best and the worst, and if there aren't Federal funds in there, I am afraid we are going to continue to try to survive with something less than modern and current curriculum and technology.

A third effect that we are seeing, and I think are going to see more of, simply what I call the whole area of program quality. Teacher contracts, of course, have been cut back greatly. If they have kept the teachers in the vocational programs they have cut their contracts.

With that you see again the teachers do not have the opportunity to develop curriculum in the summers, do not have the opportunity to supervise students who might be in cooperative on-the-job training programs. There is no avenue or not as good an avenue for inservice education, and a residual effect of that, too, by the way, is the loss of many of those teachers to business and industry.

As the contracts have been cut, the funding has been reduced, it becomes much more attractive for them to find better jobs in business and industry that pay better salaries. So those are three that I will point out.

Chairman PERKINS. Go right ahead around the table.

Mr. SCHURE. I think the most critical area deals with the fact that we will reduce our capacity on a nationwide basis to react to the vital needs of this country. I mentioned before that we are talking about increasing sophistication in industry and in the military system. Productivity isn't the only thing we are concerned with.

We are really concerned with technical know-how. The strength of America has always been that we have been able to prepare technical equipment beyond those of all other countries. We are going to lose this edge, and that, in my mind, is more critical than the loss of productivity per worker.

As a concrete example I would suggest the problems that Detroit has been having, where foreign competition has done better with models developed by American know-how than America has been able to do, but the same foreign competition recognizes that in the next few years Detroit will produce radically new kinds of designs sufficient to provide competition beyond anything that we have seen in the past.

These cuts can very well reduce the technical base that is necessary.

In the States, I believe that the ability of the States to be able to deliver high quality vocational education will be impaired. I had the privilege of serving for 3 years as the chairman of the Title 4 Advisory Committee, and of one of the vocational education committees on the regions, and in that time I found that each fluctuation and reduction in the Federal program had a marked impact at the State level.

Dislocations at the State result in an immediate lessening through the entire systems of vocational education capacities.

I also see a general lessening of quality, and I agree with my colleagues in this regard. You cannot take away the design functions, the curriculum planning, and you cannot take away the resources to stay current with technologies and expect a vocational system to give us the kind of output performance we need.

If I were to say to you, Mr. Chairman, and to the members of the committee, we would like education as good as the production of a Swiss craftsman, in general, most people would react positively.

I would submit that each time we cut, we lower the overall output of vocational education, and we damage its image, and in doing so, we turn away the very kind of youth that can strengthen our American needs.

Chairman PERKINS. Go right ahead.

Mr. MEERS. Mr. Chairman, I also have three things I would like to share with you in reaction to that question.

No. 1, I think we are going to see an increasingly wider gap between business and industry and schools, and I am speaking from a program improvement standpoint, specifically personnel development.

We are having an extremely difficult time in recruiting individuals to come and teach in our schools, because of the funding base and the temporary situation of many jobs potential for cutback. In bringing that person in, they are bringing skills to the educational setting, but they do not have the educational tools to bring about the instructional process without some type of staff development, and we are going to see that eliminated right off the bat, or it looks like it is going to be eliminated.

It has been proposed, anyway, so as a result we are going to have a difficult time keeping our people up to date, bringing them in, and allowing them to be trained, so that they can, in turn, train the students.

Second, we are going to see a wider gap between preservice and inservice education, and preservice is critical, and it is being cut back as well, so that the people are not as well trained leaving our institutions when they are going out into the instructional setting.

We have a third component that is going to really, I think, hurt in a lot of ways the future of America, and that is with the growing of America in the adult education scene, for example, there are 42,000 individuals that were laid off in the automobile industry within the State of Missouri. Of those, 21,000 are not working.

Where are they at? What kind of programs can they get into? I cited earlier that there has been a 29-percent increase in Missouri in adult education attempted enrollments. There are simply not the dollars there nor the staff to instruct these individuals.

Along with that, we are going to see, as a result of these cuts, elimination of special needs groups, and I think that is unfair to these individuals, when you get them involved in a program early, such as with Public Law 94-142, start them at 3 years of age, take them through instructional process up to where they want to enter vocational training, and then say, "I am sorry, it is simply not available."

That is not fair to our citizenry nor to the educational system in which they go to school.

Thank you.

Chairman PERKINS. Go right ahead.

Mr. THOMAS. Mr. Chairman, members of the committee, in looking at the 16-percent reduction and potential 32-percent reduction, I guess I can't help but reflect on this once again from a business standpoint as compared to an education standpoint. One concern is about as far as quality continuing to diminish as well as leadership continuing to diminish, and the effect that it will have on the development of young people, the potential employees that we would be looking at.

Two, shifting burdens. It is really going to increase the local tax load.

Three, really it is going to be a sacrifice to get dollars, as I alluded to in my informal remarks as far as the local support.

Four, from a business standpoint, one of the things that we spend a lot of time on is planning. To me, as those dollars get tighter it is going to be indicative that there will be very little planning going on in vocational education. From a business standpoint that is of great concern.

A couple specifics. During this decline of the last 2 years of 16 percent, we have seen State staff supervision drop from 209 to 179. In Wisconsin alone there has been 54 vocational education programs dropped, 15 of those in agriculture. This is one of the primary concerns that we have is what it is going to do to the quality of the program, as I pointed out in my informal testimony.

What is going to happen, if we are not meeting these needs through vocational education? Are they going to be picked up under some other Federal support program?

Thank you, Mr. Chairman.

Chairman PERKINS. In the absence of Mr. Goodling, who had to leave, minority counsel will proceed.

Mr. DIEUGENIO. I think there are a couple of concerns. One, Dr. Meers, could you expand on one point you made in your testimony on page 5 at the bottom of the page? You stated that adult vocational programs should not be confused with adult basic education programs. They are complementary but not synonymous.

That is one point that was raised when Secretary Bell testified as to whether or not the programs would be more reasonably folded together into a consolidation. The Secretary argued that they were complementary programs, and that it would be a wise decision to fold them together. And you appear to disagree with that. I wonder if you could expand on that point.

Mr. MEERS. I am basing that remark on my own experience in administering an adult basic program as well as an adult vocational program. The key difference, as I see it, is in the area of the

basic skills, mathematics, English, the communication skills, the basic last survival skills that it takes to function in our society.

I see them as complementary, that is, an individual that does not have the basic academic skills to function at a minimum level is not going to be able to actively participate in a vocational program. But I do not want to see vocational education become a situation where they are picking up and developing the academic skills just to get them to a basic literacy level and then go into a vocational program.

We want to get them into a program that will give them the basic skills and then carry them on in terms of a vocational training. If we start spending all of our vocational training time with the basic skill development, we are going to extend the time it takes to get a person through a vocational training program to such a point that I don't think our individuals, if you look at the learning pattern of adults, that they will stay in the program and complete successful vocational training.

Mr. DiEugenio. There is one other point. It seems that two concerns were expressed in everyone's testimony, one being the reduction in funds that is proposed, and No. 2, the consolidation of programs. If the funding level were increased over the current level, then how would you evaluate the impact of the administration's consolidation proposal? Any one of you can respond or all of you, if you would like.

Mr. Thomas. I guess one of the concerns that I would have from the standpoint of consolidation is the impact that is going to have in losing the identity for each of the respective programs. The total program as far as vocational education is very important. That is combined under some additional areas if 40 of the programs would be put together.

I guess one of the things some of my colleagues and I were visiting last evening, is that if we are looking at a basic grant, what would be the difference in this type of program, say, as compared to Armed Forces, in allocating one block grant to total armed forces, and then let them divvy up how they are going to spend it.

I don't think we are going to see that. They lose their identity, likewise in vocational education if that is lumped into 40 other programs.

Mr. Meers. I would also respond in the same fashion, in that of particular concern to me are the special needs groups. These individuals have not been identified long enough in terms of the mainstream of our society to have an effective voice, to go in and be able to work with those individuals who will be allocating the various dollars within a total sum.

As a result, if you look at the effectiveness of an individual to lobby, you will find that if they are not effective that individual can be eliminated from the lobbying process. The special needs groups are building strength. They are looking for their rights, and at this point, though, they do not have the opportunity to be able to go in with that strong voice and come up with the kinds of dollars they need for their specialized programs.

Mr. Drier. One concern that we have in the field of guidance and counseling is that since 1917, when guidance was institutionalized along with education and vocational education, it is very evi-

dent, 100-percent case, that when consolidation occurs within a piece of legislation or between legislation, or reductions in fundings occur, because guidance and counseling don't have its own funding base, legislating Federal funding for guidance and counseling. We are a part of many, many, 10 to 15 mental health, education, training piece of legislation.

Our history has been since 1917 that when you consolidate and reduce the mandates and the priorities and emphasis, that no longer will vocational education have the kind of support it needs from the guidance community to help kids decide to be a part of vocational education, be enriched and increase excellence during that experience in vocational education, to make that timely crosswalk to the employing community; and then, lastly, to be productive when they are on the job, because they do have problems once they hit the employing community.

We see a complete elimination of any potential that we have in the field of counseling and guidance to assist vocational instruction process, and to learn as they try to make a transition to work. Since 1917 that has been the results of consolidation and reduction of funds in vocational education.

Thank you.

Mr. LYNCH. I pretty much agree with what has been said. The only thing I can add is I think consolidation will have the effect of too many purposes with too little money.

Mr. SCHURE. I also concur, but I want to suggest that it is an imperative to keep open as much diversity as possible in the system. There are two or three areas which are so critical. I will cite just one: for example, the percentage of unemployed among minority groups in the urban cities. If this situation isn't met, we really can have a class with great discontent.

All you have to do is get up and go into the boroughs or into the depressed areas within the city to see how real this is. Under the proposed situation, I don't believe that there will be sufficient reactions to this specific kind of problem.

Thank you.

Chairman PERKINS. Any further questions? Mr. Goodling.

Mr. GOODLING. No.

Chairman PERKINS. Let me thank the entire panel. I think you have been very helpful to the committee this morning. We appreciate your appearance and hope to have you back again. We sincerely hope that we can strengthen vocational education in the future. I thank all of you for coming today.

The committee is now adjourned.

[Whereupon, at 11:20 a.m., the subcommittee adjourned.]